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PROCEEDINGS

OF THE

ZOOLOGICAL SOCIETY OF LONDON.

January 14, 1840.

William Yarrell, Esq., V.P., in the Chair.

Mr. Ogilby exhibited the skull of the Mangabay Monkey (*Cercopithecus Æthiops*, Auct.), and called the attention of the members present to the fact that this species, like the *C. fuliginosus*, differs from other Cercopitheci in possessing a fifth tubercle to the last molar of the lower jaw.

Mr. Ogilby then commenced the reading of his paper entitled "Monograph on the hollow-horned Ruminants."

A variety of the common Hare (*Lepus timidus*, Auct.), shot in Sussex, and presented to the Society by Augustus E. Fuller, Esq., was exhibited: it differs chiefly in being of a smaller size, and in having the fur somewhat mottled with whitish and in parts rust colour.

Mr. Waterhouse exhibited a new species of Rodent from the river Gambia, and stated that he was indebted to Alexander Nasmyth, Esq., for the loan of this curious animal, which constitutes a most interesting link between the genera *Mus* and *Cricetus*: like the first of these genera, it has a long scaly tail, but it resembles the Hamsters in possessing large cheek-pouches. In the number of its molar teeth and the form of the skull it presents all the most common characters of the *Muridæ*, as defined by Mr. Waterhouse in the Magazine of Natural History*.

The skull compared with that of the Common Rat (*Mus decumanus*, Auct.) differs chiefly in having the nasal portion more elongated: the anterior root of the zygoma, as in that animal, is in the form of a thin plate, but this plate is less extended in its antero-posterior direction, is directed obliquely outwards and upwards, and leaves a tolerably large and nearly round ant-orbital opening, thus differing from the Common Rat, in which the lower portion of this opening is in the form of a vertical slit: the zygomatic arch is less extended in the longitudinal direction, the incisive foramina are much smaller, and the auditory bullæ are rather smaller in proportion. The molar teeth are rooted; the foremost of these teeth in either jaw is the

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* Vol. iii. p. 275.

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largest, and the posterior one the smallest: in the upper jaw, as in *Mus*, the molars present a central row of larger, and two lateral rows of smaller tubercles; and the molars of the lower jaw have two principal rows of tubercles; there are however some slight modifications in the structure of these teeth, which should be noticed. The front molar of the upper jaw has three central tubercles, three smaller ones on the outer side and two on the inner side, and besides these there is a small ninth tubercle on the posterior part of the tooth, which is not observed in the Black and Common Rats; the second molar has two small extra tubercles, one in front and one behind; the crown of this tooth therefore presents eight instead of six tubercles, as in *Mus* proper, and the last molar possesses one extra small tubercle, which is placed on the anterior and outer part of the tooth. The molars of the lower jaw very closely resemble those of *Mus decumanus*.

In the form of the lower jaw the present animal differs from that last mentioned, chiefly in the greater breadth of the descending ramus or angle, which is moreover somewhat raised, and so far approaches the Hamsters.

The name *Cricetomys* was proposed for this new subgenus, and that of *Gambianus* to distinguish the species, and to indicate the locality in which it was first discovered. The principal characters may be thus expressed:—

Subgenus ad genera *Cricetus* et *Mus* dicta affine, et inter hæc medium locum tenens. Criceto simile quoad saccos buccales, Muri simile quoad formam corporis et caudæ; hâc perlongâ et pilis brevibus vestitâ, inter quos squamæ in more annulorum positæ videntur. Pedes ut in Mure.

Dentes fere ut in Mure. Incisores compressi; molares radicati, $\frac{3-3}{3-3}$.

CRICETOMYS GAMBIANUS. *Cri. magnitudine corporis duplo, vel plus, majore quàm in* Mure decumano*: colore ferè eodem: auribus mediocribus, pilis minutis vestitis; caudâ corpus cum capite æquante; pedibus mediocrè parvis; vellere brevi, adpresso, et subrigido; colore cinerescenti-fusco; pedibus partibusque inferioribus sordidè albis; caudâ ad basin, pilis intensè fuscis, ad apicem, albis, obsitâ.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin	16	0
———————————— basin auris	2	9
———— *tarsi digitorumque*	2	6
———— *auris*	0	11
———— *caudæ*	15	0

The Gambia Pouched-Rat is about double the size of the common Rat (*Mus decumanus*); in its colouring and proportions it greatly resembles that animal; the fur is rather harsher, and more scanty: the general colour of the upper parts of the body is a trifle paler than in *Mus decumanus*. The head is tolerably long, and pointed;

the ears are of moderate size and rounded form; the feet are of moderate size; the tail is nearly equal to the head and body in length, thick at the base, covered with small adpressed harsh hairs; but these are not sufficiently numerous to hide the scales; about one third of the tail at the base is of a deep brown colour, the hairs covering the remaining portion are pure white, and the skin itself has evidently been of a paler hue than on the basal part of the tail. The fur on the body is somewhat adpressed, and the hairs are glossy on the back; they are of an ashy-gray colour at the base; the apical half of each is brownish-yellow, but at the points many of them are brownish; many longer hairs intermixed with the ordinary fur of the back are almost entirely of a brownish-black colour. The whole of the under parts of the head and body and inner side of the limbs are white; the hairs on the belly are rather scanty, and of an uniform colour to the root: the fore feet are whitish, and the tarsi are white, but clouded with brown in the middle. The ears are but sparingly clothed with short hairs, which on the inner side are whitish, and on the outer brown.

January 28th, 1840.

William Yarrell, Esq., Vice-President, in the Chair.

Mr. Ogilby resumed the reading of his 'Monograph of the Hollow-horned Ruminants.' The following is an abstract of this paper:—

"In revising the history of the *Ruminantia*," says Mr. Ogilby, "the zoologist who, like myself, has made a special study of these animals, must be forcibly struck with the confusion of synonymes, the carelessness and inaccuracy of description, the vague and indefinite limits of the generic and subgeneric groups, the trivial and confessedly empirical principles of classification, and, as a consequence, the great number of nominal species, and the general disorder which still prevail in this department of Mammalogy." He proceeds to show that the views of the modern writers on this subject are no more philosophical than those of their predecessors, and that as regards their generic distribution, the Ruminantia remain at present in very nearly the same state as that in which Ray left them a hundred and fifty years back.

The history of the classification of this group next comes under the consideration of the author, and the views of the various writers are given and commented upon, commencing with the publication of the 'Synopsis Methodica' of Ray, published in 1693. The genera *Ovinum*, *Bovinum*, and *Caprinum*, established by that author, Mr. Ogilby regards as strictly natural groups, but the characters by which they are distinguished, derived principally from the curvature of the horns, the existence of a beard or dewlap, the number of teats, and the woolly or hairy nature of the covering, he considers trivial, arbitrary, and uninfluential.

The 'Systema Naturæ' is next considered; and although arbitrary and empirical, the generic definitions of Linnæus, (the author of the paper states,) possess all the logical correctness and simplicity which so peculiarly characterize the genius of that great man. Though neither natural nor scientific, his distribution was, at all events, exclusive and diagnostic, in reference to the small number of Ruminants then known. But whilst the zoology of the *Ruminantia* remained thus almost stationary in the hands of Linnæus, it was making rapid and brilliant progress under the auspices of his great rival and cotemporary, Buffon: even as early as the year 1764, two years before the publication of the 12th edition of the 'Systema Naturæ,' the French philosopher had described new forms, and indicated important relations among the hollow-horned Ruminants. The article 'Gazelles,' contained in the 12th volume of his great work, was the most important addition which had been made to the generic distribution of the Ruminants since the time of Ray, and must be considered as the first monograph of the genus two years afterwards founded upon it, and more formally proposed by Pallas under the name of *Antilope*.

The works of Pallas, Pennant, Allaman, Gmelin, Erxleben, Shaw, Illiger, Lichtenstein, De Blainville, and Col. Hamilton Smith, next pass under the notice of the author.

The consideration of the muzzle and lachrymal sinus was first introduced by Illiger, and his principles were quickly adopted, in successive monographs by Lichtenstein, De Blainville, and Hamilton Smith, to subdivide the Antelopes into something more nearly approaching natural groups than the old principles admitted. The publication of Illiger's 'Prodromus' may be considered therefore as an epoch in the history of these animals.

The monograph of Dr. Lichtenstein contains descriptions of twenty-nine species, and these are distributed into four groups, characterized by the presence or absence of horns in the females, and of lachrymal sinuses, the existence or non-existence of dewlap, and the comparative length of the tail. But the author was in many cases ignorant of the specific characters of the animals, and the composition of his groups is consequently faulty in proportion. The divisions, however, are exceedingly well imagined, and less encumbered with trivial characters than those of De Blainville and Hamilton Smith.

M. De Blainville, whose monograph of the genus *Antilope* was published in 1816, contented himself with separating from the main group successive detachments of what he conceives to be the most anomalous species, afterwards elaborating the characters of the subgenera thus formed from those of their component species. By this means he has unquestionably succeeded in forming a few natural groups, to which no other objection can be made than that they are considered as subdivisions of a primary group which is not itself a natural genus.

To the eight genera established by De Blainville, Desmarest added three others, two of which, viz. the separation of the Antelopes proper from the Koodoo and Boshbok, and of the Oryxes, were decided improvements.

The principal merit of Col. Hamilton Smith's monograph, published in Griffith's translation of the 'Régne Animal,' consists in the resolution of the residual group of De Blainville and Desmarest, which he subdivides into eight minor groups, in all respects more definite and natural than the original.

The next section of the paper is devoted to the consideration of the characters hitherto employed in the generic distribution of these animals.

The genera *Bos*, *Ovis*, and *Capra*, represented by familiar and well-known types, observes Mr. Ogilby, carried with them clear and definite ideas, and represented to the mind of the naturalist distinct and determined forms, but the genus *Antilope* not being exemplified by any common domestic species familiar to the observation of the student, every thing connected with the genus was vague and indeterminate; the only conception it enabled him to form was, that the animal, whatever else it might be, was neither an ox, a sheep, nor a goat. The characters, moreover, upon which this genus is established, are in reality so many negative traits, and merely served to distinguish all other hollow-horned Ruminants from the oxen, sheep, and the goats respectively, but they limit no positive group, and consequently cannot be received as the definition of a natural genus. The genus *Antilope* in a short time became an asylum for the reception of all hollow-horned Ruminants, which could not be associated with the known genera *Bos*, *Ovis*, and *Capra*, and consequently the most incongruous forms and opposite characters were associated in the same genus, till, independently of its unphilosophical structure and total want of character, whether natural or artificial, the practical inconvenience arising from its undue extension, forced zoologists to devise the partial remedies detailed above, and which all proceeded upon one common principle, that, namely, of dividing the genus *Antilope* into such subordinate groups as were conceived best calculated to obviate the inconsistencies, and approximate those species which most nearly resembled one another in habit and conformation. In thus subdividing the genus *Antilope* it is assumed by every writer on the subject to be a natural group, even whilst they confess that it has not a single character either exclusively appropriate to it or even common to the generality of its component species: far, therefore, from being a natural, it is not even entitled to be considered an artificial group. The diagnosis proposed by M. Geoffroy St. Hilaire regarding the nature of the core of the horns, and that broached at a meeting of the Zoological Society by M. Agassiz, to the effect that these animals are distinguished from *Bos*, *Ovis*, and *Capra*, by having a spiral twist of the horns turning from left to right, instead of the opposite direction, are founded upon hasty generalizations, inapplicable to at least three-fourths of the species.

The form or curvature of the horns, the beard, the dewlap, the scopæ, the number of teats, and other such diagnoses hitherto employed to define the genera of Ruminants, according to the views of Mr. Ogilby, are purely trivial and accidental characters, which not only exercise no assignable influence on the habits or economy of the animals, but which may be modified to any extent, or even destroyed altogether, without in the slightest degree changing the generic relations.

Having demonstrated the imperfections of the actual distribution of hollow-horned Ruminants, Mr. Ogilby proceeds to the exposition of the principles which he proposes to make use of for that purpose, and to explain the nature and extent of his own researches. He insists, upon the law of classification, that no generic characters should be admitted but such as are founded upon the necessary relations that subsist between the organic structure of animals and their habits and economy.

The next section of the monograph is devoted to the consideration of the horns of the *Ruminantia*. Under this head the author first treats of their substance; 2ndly, their permanent or deciduous character; 3rdly, their presence or absence in different genera and sexes; and 4thly, their number, forms, and flexures.

The distinctions between the horns of the stag tribe generally, and those of the hollow-horned Ruminants, are pointed out, and in the next place the various modifications observable in the horns and their core of the latter group. "In some cases the substance of this bony core is solid, or at least penetrated only by minute pores; in others, and they are by far the greater number, it is partially hollow, or filled with large cancelli, which communicate with the frontal sinuses. These variations are not confined to any particular groups, but are equally common to solid and hollow-horned genera. The giraffe, for instance, has very extensive cancelli; so likewise have the oxen, sheep, goats, and all the larger species hitherto classed among the antelopes: nor have I found the solid core, so much insisted on by MM. Cuvier and Geoffroy St. Hilaire, in any of these animals, except the *A. Cervicapra*, the *Dorcas*, and their allied species."

Speaking of the raised ridges and annuli on the horns, Mr. Ogilby states that the number of these added in a given time appears to be very variable. "The common cow is generally supposed to acquire one ring on the horn every year after the third, but this is far from being a general law. Between the 20th of July and the 31st of October, 1833, the horns of a young Indian Antelope (*A. Cervicapra*), which I had marked for the purpose in the gardens of the Society, acquired an addition of no fewer than three rings, and an increase of length of a full inch and a half; and I have observed a similar phenomenon in other species."

The permanent or deciduous character of the horns is said to depend upon their hollowness or solidity; and the author, moreover, states that it is not correct to suppose that hollow horns are, strictly speaking, permanent; the hollow horn is shed, as well as the solid, but in a different sense. "Buffon has been much ridiculed for asserting this fact with regard to the domestic ox, but Buffon was a much better observer than his critics; and I have myself verified his observations on many other Ruminants. If the horns of any young animal be examined, it will be found that they are of a coarse, scabrous, spongy texture, very thick and blunt in proportion to their length, and hollow nearly to the point: let the same individual be examined when it arrives at maturity; the horns, especially towards the extremity, have a close, compact, and polished surface; they are much attenuated, end in a very fine point, and have the terminal third perfectly solid. These changes do not arise from the mere rubbing and polishing of the horn, as is commonly supposed. That hypothesis does not account for the difference of texture and solidity which distinguish the old and young horns; but the truth is that, as in the case of the second dentition, the permanent organ is developed under, or rather within the other, and by its growth gradually carries it upwards, and supports it like a sheath or scabbard. The young horn thus severed from the vessels which formerly supplied it with nutriment, dries up, bursts from the expansion of the permanent horn within it, and exfoliates in large irregular stripes, leaving the latter with the finely polished surface, and solid, sharp, attenuated points which distinguish them. As far as my observations enable me to judge, this exfoliation takes place only once during the life of the animal, and that at the period of adolescence, immediately before the appearance of the first annulus. Though it does not take place all at once, nor absolutely deprive the animal of horns for a certain period, it is nevertheless a true and actual shedding of these organs, and accounts satisfactorily for many phænomena which I found inexplicable before making these observations. The horns of the Oryxes, for instance, which in the adult state are remarkable for their straightness and extreme sharpness, have the points very blunt, and bent backwards, almost at a right angle, in the young animal; and the Koba, or Sing-Sing, whose permanent horns are partially lyrated, has the young organs nearly straight, as may be observed in the specimen now in the Society's museum. It is only necessary to observe further, that the young horn, which afterwards exfoliates, appears to be entirely the growth of the first year, though it generally remains a much longer time before being cast. A young *Leucoryx* in the museum at Frankfort, with horns eighteen or twenty inches long, has the points still blunt, exactly as in another specimen, where they are only two inches long." "Now this permanence or deciduousness of the horns—for in a general sense, and especially as contrasted with the solid organs of the deer kind, the hollow horn may be considered as permanent—is a constant and invariable character, which has a direct and powerful influence upon the habits and œconomy of the animals. The deer kind invariably affect particular localities at the period of casting and renewing their horns; their manners then undergo a complete change; from bold and daring, they become irresolute; they lose their flesh, abandon the open hills and upland plains for the thick cover of the forests, and foregoing their gregarious habits, desert their companions, and pass the period of weakness in solitude and seclusion. As soon, however, as the new horn acquires strength and solidity, the stag resumes his usual habits, and regains his former confidence. Hollow-horned Ruminants present no such phænomena; the habits and manners of the same species are similar at all seasons, and the differences which we observe in different species depend upon other causes, which shall be developed in the sequel. The modifications of organic structure which produce these different effects are too permanent and influential to be neglected among the characters of a natural classification of the Ruminants. Nor have they been overlooked by zoologists; it may be said, indeed, with truth, that they constitute the only really important characters hitherto employed to distinguish the genera of these animals."

The presence or absence of horns in species or sexes has been partially employed by naturalists for the distinction of genera; the importance of this character, however, in the opinion of the author, has not been duly appreciated. Its effects on the habits and œconomy of the species of Ruminants is pointed out. The gentleness and timidity of those species which have hornless females, their being either perfectly monogamous, or residing in small detached families, composed of a single adult male and variable number of females, and the circumstance of the males adhering throughout life to the same female are all phænomena which are traceable to the defenceless condition of the females. These phænomena are contrasted with those exhibited by Ruminants, in which there are horns in both sexes; they are said to be extremely bold, to reside generally in large herds, and to have a community of sexual intercourse, and rarely attach themselves to particular individuals.

The number, form, and peculiar curvatures of the horns are next considered; and the author arrives at the conclusion, that all the various flexures of the horns, as well as their number, form, and direction, have no assignable relation to the habits and economy of animal life; they should not therefore be selected for generic diagnoses. On the other hand, the form of the upper lip, as well as its hairy or naked character, having a very decided influence on the habits and economy of ruminating animals, ought by no means to be neglected in the classification of this group. Other important characters may be derived from the crumens and other glands, or certain pits or sinuses which open externally, especially in different parts of the head in ruminating animals. The most remarkable, as well as the most common of these are the suborbital, sometimes called the lachrymal sinuses, or tear-pits, but which Mr. Ogilby distinguishes by the name of *crumens*, a term applied to them by Dr. Flemming. These are situated at a short distance below the inner canthus of the eye, and received into a cavity of the lachrymal bone; at their bottom is a gland, opening into the crumen by a number of small apertures, and secreting a viscous substance, of the consistence of ear-wax. The various modifications of the form of these crumens in different Ruminants being pointed out in the paper, the author proceeds to the consideration of their functions and uses: he observed that the Gazelles and Antelopes in the Society's menagerie frequently protruded this crumen, and rubbed its inner surface against the rails of the compartments in which they were confined, seeming to take a pleasure in smelling and licking it afterwards. A male and female Gazelle, occupying contiguous compartments, were changed, and it was found that they immediately discovered the viscous deposit, and became restless and agitated; the male Gazelle was some days after made to change places with an Indian Antelope, but neither animal appeared to take the slightest notice, or to be aware of the presence of its predecessor. "This, to be sure," says Mr. Ogilby, "is but a single experiment, but it countenances the idea, highly probable in itself, that the deposit which the animals leave behind them by rubbing the crumens against the shrubs or stones of their desert and mountain habitats, (for it is only the inhabitants of such localities that are furnished with these organs, at least among the hollow-horned family,) may serve to direct them in their wanderings and migrations, when the storms and fogs incident to such places obscure all visible landmarks. But whatever it may be, the principles of sound philosophy and the great doctrine of design forbid us to entertain the notion that so remarkable an organ has been formed without some special and appropriate function in animal œconomy."

A superficial slit, situated in a depression of the maxillary bone, on either side, called by the author the maxillary sinus, is found in certain Ruminants hitherto classed among the Antelopes; its secretion is of a thin watery consistence, and thus differs from the secretion of the crumens. The situation of these glands, and their peculiar secretion, induces the author to regard them as distinct organs, and he doubts their coexistence with the crumens, though M. F. Cuvier and Colonel Smith have reported such sometimes to be the case.

The membranous sac which opens behind the ear of the *Chamois*, and the large gland which Mr. Hodgson describes in the nose of the *Chiru*, are of too partial occurrence to be made available in generic characters; there are, however, two large and deep sacs, situated one on each side of the udder, which are of pretty general occurrence, but their function does not appear to exercise sufficient influence over the animal economy to entitle them to be considered among the generic characters. "The same observation may be applied to the odoriferous bags attached to the prepuce of the *Musk* and *Antilope gutturosa*; so that, upon the whole, the crumens, maxillary and facial glands, are the only organs of this nature which appear entitled to the rank of generic characters."

The modifications of the feet are considered as scarcely definite enough to be employed for generic definitions: "the glands or pores which open between the toes of many Ruminants afford much better characters for this purpose, and bear a very evident relation to the habits and geographical distribution of the animals. These glands are of greater or lesser extent in different genera, according to the nature of the localities which they frequent; in the *Gazelles*, *Antelopes*, *Bubals*, and *Oryxes*, which inhabit the burning deserts of Africa and central Asia, they are extremely large, and frequently occupy the whole interspace between the first and second phalanges; in the *Sheep*, *Capricorns*, and *Tragelaphs* again, which live on the open grassy downs and mountains of a less arid nature, they are of a much smaller size; whilst in the *Oxen*, *Calliopes*, &c., which inhabit the moist forests and swamps of tropical regions, or grassy meadows of temperate climates, they are altogether wanting.

After describing the uses of these digital pores, and pointing out the great influence they have on the œconomy and manners of the animals, the author observes that he is not aware of their having been noticed by any previous zoologists, and concludes by expressing the hope that the employment of this and other influential characters, which it is the object of this first part of his monograph to explain, will be found to establish a logical, scientific, and natural arrangement among the *Ruminantia*, instead of the prevailing arbitrary and artificial system.

February 11, 1840.

The Rev. J. Barlow in the Chair.

A letter addressed to the Secretary by Sir John McNeill, and dated January 31, 1840, was read. It related to the two Persian Deer presented by that gentleman to the Society's menagerie, and contained an answer to some inquiries from the Secretary respecting them.

The letter states that this species of Deer is called by the Persians, Marāl, or Gevezu, or Goo Koohee, and is frequently noticed in their literature. It is found in all the wooded mountainous districts of Persia, but apparently does not occur in the central parts of the country.

The Persian Deer "rarely descend into the plains. During the summer they are found in the highest wooded parts of the mountains, and during the winter in the lower ravines near their bases, where they are frequently tracked in the snow.

"The horns of the adult male closely resemble those of the Red Deer of this country, insomuch that I doubt whether an unscientific observer could distinguish them, unless by the superior size of those of the Marāl."

Mr. Yarrell communicated to the meeting, on the part of R. H. Sweeting, Esq., some facts relating to a female Rorqual Whale (*Balænoptera boops* of authors), which was stranded near high-water-mark at Charmouth, Dorsetshire, early in the morning of Wednesday, February 5th, 1840.

The whole length was	44 feet.
Girth	21 —
Breadth of tail	9 —

Probable weight from twenty to twenty-five tons.

The jaws long and slender, but not sharp, the tip obtuse and convex; the upper jaw the shortest, and received, when the mouth is closed, within the lower jaw, which projected nine inches beyond it. The plates of whalebone amount to upwards of 250 on each side of the jaw; the palate and tongue of a pale pink colour; no warts about the lips. The back black; the under surface of the body white; the throat plicated. The nostrils or blow-holes are two longitudinal fissures, the anterior points nearly touching, but diverging posteriorly to a distance of three inches, and separated by a furrow. The opening of the eye six inches in length, from canthus to angle; the bony socket from anterior to posterior margin is eight inches; eyeball seven inches; the pupil oval; the irides hazel. There was not the slightest appearance of eyelashes, which some authors state whales possess.

The distance from the end of the under jaw to the origin of the pectoral fin ten feet nine inches; the length of the fin five feet six inches; the breadth eighteen inches. The dorsal fin small, of cartilage only, conical, the basal length eighteen inches, the elevation twelve inches; placed eleven feet in advance of the tail.

The subcutaneous layer of fat varied in thickness from three to five inches.

The figure at the bottom of page 521 in Mr. Bell's History of British Mammalia and Cetacea, was referred to as a very good representation.

The dimensions of the skeleton are as follows:—

Whole length	40 feet.
Head	10 —

The vertebræ are sixty in number; viz. seven cervical, fifteen dorsal, sixteen lumbar, fifteen caudal, and seven caudal bones. Of ribs there are fourteen, the first of which is double-headed, and is attached to the two first dorsal vertebræ; each of the other ribs is attached to a single vertebra, and has a single head; the dorsal vertebræ, therefore, exceed the ribs in number by one.

The rest of the details of the bony fabric, as regards the pectoral fins, &c., correspond precisely with Dewhurst's plate and description of the Ostend specimen, allowing of course for the inferior size of the present animal.

Mr. Yarrell exhibited, at the request of G. T. Fox, Esq., of Durham, a specimen of a beautiful spiny Lizard, from Texas,—the *Agama cornuta* of Harlan, *Phrynosoma Bufonium* and *Phrynocephalus Bufonius* of other modern authors. The specimen on which Dr. Harlan drew up his description was from the west of the Rocky Mountain Range.

A paper was then read, by Mr. Blyth, entitled "A Summary Monograph of the species of the genus *Ovis*," in which the author recognized nine species, besides indicating others as more or less doubtful.

The Argalis of Asia and America were provisionally considered as the same, under the appellation of *Ovis ammon*, as also the Kamtschatka sheep of M. Eschscholtz, which Mr. Blyth suspected to be only an individual slight variety; and accordingly, he traced the geographic range of this animal from Asia through Kamtschatka and the Aleutian Isles to the Rocky Mountains of North America, and southward upon that continent to California, where there was reason to believe it occurred, together with the true Californian species described by Mr. Douglas. In Asia he followed it southward to the Himalayas, but suspected that the *Ovis ammon* mentioned by different authors as inhabiting the Caucasus and Taurus, referred to a distinct species which he had to describe. The *Ovis Californiana* was next noticed; and then a superb new species, believed to be from Mount Taurus, the horns of which were suggested to bear every appearance of having supplied the model which ancient sculptors followed in their representations of Jupiter Ammon, and which therefore it was proposed to designate *O. sculptorum*. Mr. Blyth then proceeded to distinguish two Himalayan species, which presented a somewhat different form of horn from the rest of the genus; one, the *Ovis Nahoor*, Hodgson, of superior size, and general pale colour, which he believed did not inhabit so high; the other he termed *O. Burrhel*, which was of a very dark colour, and presented numerous other specific distinctions, being an inhabitant also of more elevated regions. The *Ovis aries* he considered a species *per se*, and not descended from the Moufflon; and the *O. musimon* was treated of in detail under its two alleged varieties, specimens of which, however, had never been compared together. The *Ixalus probaton*, Ogilby, was deemed to belong strictly to the genus *Ovis*, and Mr. Blyth suggested, that as the abnormal growth of its hoof indicated that it had long lived in captivity, it was not unlikely that castration at an early age may have obstructed the developement of its horns, the rudiments of which exactly resembled those found upon many breeds of true sheep, and upon the lambs of all horned breeds of a certain age. The last animal included was the *Ovis tragelaphus*, Auctorum, of which the *O. ornata*, Geoffroy, appeared to be merely a dwarfish individual: the characters of this species were treated of at considerable length, and it was proposed to elevate it to the rank of a subgenus of *Ovis*, for which the name *Ammotragus* was suggested. The paper was illustrated by numerous elaborate drawings of the horns, &c., and by a pictorial group, containing the principal species, the relative sizes of which were thus rendered obvious to the eye.

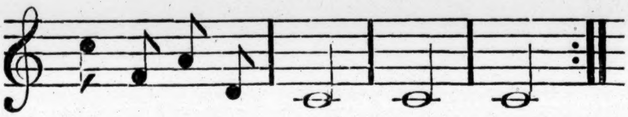
Mr. Strickland, at the request of the chairman, exhibited some Birds selected from his collection, several of which he thought were undescribed, and would interest the members present.

Mr. G. T. Lay read the following account of the habits of a Bird of Paradise, *Paradisea apoda*, Linn.:—

"This bird has been in the possession of Mr. Beale upwards of fourteen years, and seemed when I left China at the commencement of the past year to be in full health and vigour. It is fed mainly upon boiled rice, with a few grasshoppers, as meat with its vegetables. These it eats whole when small, but pulls off the legs and wings when large. The tip of the abdomen, with the lower intestine, are rejected, while the rest of the viscera are devoured as a sort of choice morsel. It seizes the insect near its head with so firm a gripe, that life is soon extinct, which answers the double purpose of securing its prey and of shortening the dying throes of the poor victim. It is very careful to cleanse its bill after every such operation, wiping it upon the perch, and shaking it with a peculiar jerk. I have heard one remark that it is not a clean feeder, but this is true only of the mode of eating, which is gross and eager, as the largeness of the mouthful is incompatible with much grace or nicety in conveying the food to the place of its destination.

"The voice is loud and sonorous when he calls in a rapid succession of notes. This is probably the strain in which he answers his fellows in the wild state, and may be heard, from its clearness, a great distance, where walls and dwellings do not interfere with the pulsations. When you approach his cage he often treats you with a ditty, which I have called in my memorandum 'the song of solicitation.' It is short, but very pleasing, and not a little curious, for the notes are repeated in harmonic progression.

"*The Serenade of Beale's bird.*



"The first four notes are very exactly intonated, very clear, and very sweet. The three last are repeated in a kind of caw, a very high refinement of the voices of a daw or a crow, yet possessing a striking resemblance. And this suggests a lively affinity between the crows and the paradise birds. While this serenade is uttered, the black pupil, encircled by a golden iris, waxes or wanes, as the creature wishes to contemplate more distant or nearer objects. The bill snaps as the prelude of a meal and the token of appetite, while the body is conveyed from side to side by the highest and most easy springs. The crow and its congeners love to range upon the ground, as having feet formed for walking, but the Paradise Bird shuns the bottom of the cage, as if afraid of soiling its delicate plumage. For I must observe, that it is always as clean and wemless as it is gay and splendid. The Creator, who has poured so much beauty upon it, has also endowed it with an instinct to delight in these charms, and with wisdom to preserve them in their fullest integrity. In the wild state it is not unlikely that they catch their prey upon the wing, either by taking it in flight, like the swallow, or by darting upon it, like the Drongo Shrike, as it passes by the seat of its pursuer.

"The form and disposition of the pennons afford it the power of floating gracefully upon the breeze, not of cutting the air in rapid flight. The ease with which it glides upon the auræ must be increased by the hypochondrial feathers, which are lifted up and displayed in the act of flying. The hypochondrial feathers are yellow at the base, whitening towards the end, with brown shafts. The shortness of the vanes make them resemble the teeth of a saw near the end. The tail-coverts with long toothed shafts. The feet and legs are of a dark leaden blue. They are strong, and grasp the perch with great ease and firmness."

Mr. Fraser pointed out the characters of several new species of Humming-birds, which had been placed in his hands by the Earl of Derby for that purpose, and that they might be exhibited at one of the Society's scientific meetings. These birds were obtained at S^{ta} Fé de Bogota, and the collection contained eighteen species, a great portion of which being undescribed, were thus characterized:—

TROCHILUS EXORTIS. *T. rostro quàm caput paululùm longiore; caudâ nigrescente, latissimâ, subfurcatâ; colore viridi; pectore cœruleo enitente; maculâ frontali splendidè viridi; laciniâ gulari* *purpurascenti-rubrâ nitore cœruleo ; menti plumis cœruleis ; crisso albo.*

Long. tot. 4 unc. ; *rostri*, $\frac{3}{4}$; *alæ*, $2\frac{1}{2}$; *caudæ*, $2\frac{1}{8}$.

Hab. Guaduas, Columbia.

This species is of moderate size ; the general colour of its plumage is deep rich green, with bronze reflections ; the wings are dusky, with the upper and under coverts of the same green tint as the body : the two central tail-feathers are tinted with bronze, both above and beneath ; the remaining tail-feathers, which are broad, are black, but in certain lights a very obscure purplish-green hue is observable ; the feathers on the forehead are more compact than the remaining feathers of the head ; in some lights they appear to be of a black colour, edged with green ; in others they exhibit a most brilliant green lustre.

Trochilus cupreo-ventris. *T. rostro quàm caput paululùm longiore ; caudâ brevi, subfurcatâ : femoribus albis ; colore splendidè viridi, aureo et cupreo enitente ; crisso purpurascenti-cœruleo ; primariis nigrescentibus ; caudâ nigrâ, purpureo tinctâ.*

Long. tot. $4\frac{3}{4}$ unc. ; *rostri*, 1 ; *alæ*, $2\frac{3}{8}$; *caudæ*, $1\frac{7}{8}$.

This species is remarkable for the richness of its colouring ; in certain lights it appears as if it were powdered with gold and copper-coloured particles ; the coppery hue prevails most on the belly ; and the upper tail-coverts are of a purer green than other parts.

Another blue-vented and white-thighed Humming-bird was described under the name of

Trochilus uropygialis. *T. rostro quàm caput longiore ; caudâ mediocri, furcatâ : colore corporis intensè viridi, aureo relucente ; rectricibus caudæ fulgidè aureo-viridibus ; gulâ crissoque ex purpureo splendidè cœruleis ; abdomine nitidè viridi ; alis nigrescentibus ; caudâ ex purpureo atrâ ; plumis femoralibus albis, laxis.*

In the female the throat and chest are somewhat rusty, with green spots, and the feathers on the belly are variegated with whitish.

This species is about the same size, and in many respects resembles, the *T. cupreo-ventris*, but differs in having the general colour less brilliant, whilst the feathers of the belly and the upper tail-coverts are more brilliant, and present that compact striated appearance which is always observable in those feathers which give that extreme brilliancy to different parts of these birds : it differs, moreover, in having a blue throat, and the belly, instead of being cupreous, is bluish-green. The upper tail-coverts in *T. cupreo-ventris* are of the same loose character as those on the back.

Trochilus coruscus. *T. rostro brevi ; caudâ latissimâ, subfurcatâ, ex æneo fuscâ : corpore suprà, capiteque viridibus nitore aureo ; tectricibus caudæ cupreis ; primariis purpurascentibus ; corpore subtùs viridescente, fuscescenti-ochreo, præsertim ad crissum, tincto ; lineâ gulari, ad pectus tendente nitidè viridi, apice purpurascenti-rubro.*

Long. tot. $5\frac{1}{4}$ unc. ; *rostri*, $\frac{3}{4}$; *alæ*, $2\frac{7}{8}$; *caudæ*, $2\frac{1}{8}$.

Beak about equal to the head in length; tail slightly forked, the feathers *very* broad; general colour of upper parts green, with golden reflections, upper tail-coverts coppery; under parts dull brownish-green; tail-feathers above and beneath rich bronze, with golden brown reflections; primaries dusky, with purple reflections: a stripe, extending from the chin to the chest, is composed of compact brilliant feathers; those on the chin and throat are green, and those beyond are purplish-red, exhibiting bluish reflections; under tail-coverts brownish-yellow; some of the feathers are whitish; the feathers on the edge of the shoulders are varied with brownish-ochre.

The female is deficient of the flame-like mark on the throat.

Trochilus brachyrhynchus. *T. rostro quàm caput breviore; caudâ brevi, nigro, cupreo et æneo subnitente; rectricibus utrinque duabus externis cæteris paululùm præstantibus, et ad apicem albis: corpore suprà, ex aureo viridi, corpore subtùs albo (interdùm flavido lavato), maculis ex aureo viridibus ornato; primariis purpurascentibus.*

Long. tot. $3\frac{5}{12}$ unc.; *rostri*, $\frac{1}{3}$; *alæ*, $1\frac{7}{8}$; *caudæ*, $1\frac{7}{12}$.

In one specimen there is a rufous tint on the upper tail-coverts; in another there are several purple feathers irregularly scattered with the ordinary golden green ones on the back; perhaps in the adult bird this purple is the prevailing colour of the back.

This small-sized species is remarkable for the shortness of its beak, which is acutely pointed, and a little dilated in the middle.

Trochilus Derbianus. *T. rostro recurvo, quoad longitudinem, corpus cum capite æquiparante; caudâ mediocri, paululùm furcatâ: colore viridi, corpore subtùs albido variegato; gulâ nigrescente.*

♂ Long. tot. 8 unc.; *rostri*, $3\frac{3}{8}$; *alæ*, 3; *caudæ*, $2\frac{1}{4}$.
♀ ——— $7\frac{1}{4}$ ———, $2\frac{3}{4}$; —, 3; ——, 2.

Bill immensely long, and somewhat recurved, equal in length to the head and body; tail moderate, slightly forked; head and upper parts of body green, with golden and bronze reflections; wings purplish-black; tail blackish, tinted with bronze, the central feathers being the richest; chin and throat dusky, each feather very obscurely tinted with bronze in the middle, and edged with ashy-white; belly and vent green; the feathers edged with white, or in parts greyish, those on the chest are whitish, with a large green spot near the apex: under wing-coverts green.

The female has a shorter beak; and there is more white on the under parts of the body; the feathers on the throat and chin are somewhat variegated with yellowish.

Trochilus aurogaster, Loddiges' MSS. *T. rostro ferè duplo quàm caput longiore; caudâ mediocritèr latâ et furcatâ; plumis corporis permagnis, et suprà et subtùs: colore splendidè viridi; tectricibus caudæ plumisque abdominis nitidè aureo relucentibus; notâ gulari purpureo-cæruleâ, necnon apud frontem notâ, luce favente, gramineo-viridi; crissi plumis aureo-viridibus, ferrugineo* *marginatis ; alarum primariis fuscescenti-nigris non sine æneo nitore ; caudâ ex-aureo-æneo-viridi.*

In the female the throat is of a rusty yellow tint, and is sparingly spotted with green ; the belly and vent are of an ochreous colour, with heart-shaped green spots ; on the former the green predominates, and on the under tail-coverts the yellowish tint prevails.

This species is of moderate size ; that portion of the under mandible which shuts into the upper one is white.

TROCHILUS FUSCICAUDATUS. *T. rostro quàm caput longiore ; caudâ subrotundatâ : colore ex aureo viridi ; plumis gulæ, pectoris, et abdominis, albido marginatis ; plumis analibus albis ; crisso fusco, rectricibus caudæ submetallicè castaneis, nigrescente marginatis ; remigibus alarum nigrescentibus, purpureo paululùm relucentibus ; mandibulâ inferiore (apice excepto), necnon superioris basi, pallidè fuscis.*

Long. tot. 4 unc. ; *rostri*, $\frac{7}{8}$; *alæ*, 2 ; *caudæ*, $1\frac{1}{2}$.

Hab. Chachapayas, Peru.

TROCHILUS CYANOPTERUS, Loddiges' MSS. *Tr. rostro quàm caput multo longiore ; caudâ latissimâ et levitèr furcatâ : colore intensè viridi, ad nigrum hìc atque illìc vergente, præsertim apud caput ; primariis tectricibusque alarum metallicè cœruleis, illis ad apices marginesque nigrescentibus ; caudâ nigrescente, viridi tinctâ ; alis subtùs cœrulescentibus.*

This is a very large species, being nearly equal in size to the *T. gigas* ; its deep green colouring and blue wings render it easily distinguished ; the female differs considerably from the male, inasmuch as nearly the whole of the under parts of the body are of a rust-like tint ; the two outer tail-feathers are of a blackish colour, but have a white shaft ; the outer web is grayish-white, excepting at the margin and at the apex of the feather ; the outer edge of the first primary is palish.

TROCHILUS GIBSONI, Loddiges' MSS. *T. rostro quàm caput longiore ; caudâ mediocri, rotundatâ : corpore suprà, sic et rectricibus caudæ duabus intermediis aureo-viridibus ; corpore subtùs albo ; plumis gularibus magnis, strophium efficientibus, purpureo relucentibus ; rectricibus caudæ utrinque tribus, exterioribus, ad basin cinerascentibus, apicibus albis.*

Long. tot. $2\frac{7}{8}$ unc. ; *rostri*, $\frac{7}{8}$; *alæ*, $1\frac{3}{4}$; *caudæ*, $1\frac{1}{8}$.

Hab. —— ?

The green on the upper parts of the body of this little species is rather paler, and has a greater admixture of the golden lustre, than usual : words can convey no idea of the brilliancy of the large ruff on the throat ; in some lights it assumes a deep blood-red hue ; in others there is a slight admixture of purple observable ; in others, again, they put on a brilliant cupreous-red tint, as we observe in the copper ore.

Trochilus angustipennis. *T. rostro quàm caput paululùm longiore; caudâ levitèr furcatâ, hujus rectricibus, necnon remigibus alarum, valdè arctis: capite corporeque suprà intensè æneo-viridibus; gulâ et corpore subtùs, plumis albis analibus exceptis, aureo-viridi metallicè relucentibus; alis caudâque intensè purpureis.*
Long. tot. $3\frac{1}{4}$ unc.; *rostri*, $\frac{3}{4}$; *alæ*, $1\frac{3}{4}$; *caudæ*, $1\frac{3}{8}$.

This small-sized species has the wing and tail-feathers narrower than usual.

Trochilus parvirostris. *T. rostro parviusculo, acuto, quàm caput breviore; caudâ levitèr furcatâ, mediocri, rectricibus sub-latis: capite corporeque suprà aureo-viridibus, in obscurum transeuntibus; frontis plumis ochreo pallidè lavatis; corpore subtùs flavescenti-albo; gulæ plumis singulis maculâ obscurâ; abdomine sordidè ochreo, plumis singulis maculâ magnâ, obscurè viridi; plumis analibus albis; crissi plumis obscuris, apicibus albis; caudæ rectricibus, æneo-viridibus suprà, subtùs aureo-æneis, scapis albis; rectricum tribus utrinquè externis, lineâ centrali albâ, in externâ utrinquè hâc lineâ extensa, ferè ad marginem; alis obscuris, purpureo subtùs, paululùm relucentibus.*
Long. tot. $4\frac{1}{2}$ unc.; *rostri*, $\frac{1}{2}$; *alæ*, $2\frac{3}{8}$; *caudæ*, 2.

This is in all probability a young bird, or perhaps a female of some species, the male of which remains to be discovered; the yellow white, or cream-colour of the lower part of the throat, extends in a narrow line across the back of the neck.

Trochilus flavicaudatus. *T. rostro quàm caput duplò longiore, et arcuato; caudâ mediocri: capitis vertice obscurè fusco; corpore suprà aureo-viridi, corpore subtùs ochreo; gulæ plumis punctis aureis et cupreis; pectoris lateribus maculis aureo-viridibus, ornatis; crisso pallidè ochreo; rectricibus caudæ duabus intermediis aureo-viridibus, reliquis ochreis, apicibus viridibus; remigibus alarum obscuris, purpureo relucentibus; rostro nigro; pedibus suprà nigrescentibus, subtùs pallidis.*
Long. tot. $4\frac{3}{4}$ unc.; *rostri*, $1\frac{1}{8}$; *alæ*, $2\frac{1}{2}$; *caudæ*, $1\frac{3}{4}$.

Trochilus melanogenys. *T. rostro quàm caput vix longiore; caudâ sub-brevi, rectricibus mediocritèr latis, et acutis: capite et corpore suprà aureo-viridibus; corpore subtùs ex-ochreo-albo; abdominis lateribus rufo lavatis; genis nigris; lineâ flavescenti-albâ pone oculos; plumis gulæ singulis notâ ad apicem nigrâ, notis lineas longitudinales efficientibus; abdomine, obscurè, aureo-viridi guttato; caudâ suprà nigrescente, æneo tinctâ, apicem versus nigrâ purpureo relucente, et rectricibus flavescenti-albo, duabus intermediis exceptis, terminatis; alis obscuris, violaceo relucentibus; mandibulæ inferioris basi, pedibusque flavis.*
Long. tot. $3\frac{3}{4}$ unc.; *rostri*, $\frac{3}{4}$; *alæ*, $3\frac{3}{4}$; *caudæ*, $1\frac{3}{8}$.

Trochilus tyrianthinus, Loddiges' MSS. *T. rostro acuto, caput longitudine equante; caudâ mediocri, vix furcatâ; rectricibus la-*

tissimis : capite, corporeque suprà, aureo-viridibus ; sic et corpore subtùs, at ochreo variegato ; gulá nitente, et intensè viridi ; rectricibus caudæ suprà æneo-viridibus, ex-aureo, et cupreo relucentibus, subtùs, cupreis, aureo nitentibus ; alis obscuris ; rostro pedibusque nigris.

Fœm : *gulá e castaneo flavá ; abdomine albo, ochreo lavato ; singulis plumis notá aureo-viridi.*

Long. tot. 4 unc. ; *rostri*, $\frac{1}{2}$; *alæ*, $2\frac{1}{8}$; *caudæ*, $1\frac{3}{8}$.

February 25, 1840.

Prof. Rymer Jones, in the Chair.

A letter from the Society's Corresponding Member, R. J. Bourchier, Esq., was read. It is dated Malta, February 4, 1840, and relates to some living quadrupeds and birds which had been forwarded to that place by Sir Thomas Reade, for the Society's menagerie. These animals, Mr. Bourchier states, notwithstanding the greatest possible care had been taken, have all died, with the exception of one Crane. They originally consisted of three Cranes, a Wild Cat, and a Cervine Antelope, or Bubalus.

A letter from Petty Vaughan, Esq., was also read: it accompanied two specimens (male and female) of a species of *Icterus*, and their nest, which he begged to present to the Society in the name of Mrs. Vredenburg. These specimens, the letter states, were sent from Para by the lady of the British Consul.

The Secretary called the attention of the meeting to some specimens of Quadrupeds, Birds, Reptiles, and Fishes, which were upon the table. These specimens were presented to the Society by P. L. Strachan, Esq., who procured some of them at Sierra Leone, and others at the Gambia. The collection consists of forty specimens of Birds and six Quadrupeds, together with some specimens of Reptiles, Fishes, and Crustacea, preserved in spirit.

Mr. Ogilby more particularly drew attention to a fine female specimen of the *Colobus Temminckii*, procured by Mr. Strachan at the Gambia, which differs somewhat in its colouring from the mounted specimen in the Society's museum: the tint of the upper parts of the body being darker, and the rusty hue on the limbs much richer.

Mr. Ogilby next drew attention to a prepared specimen and skull of a Gibbon, which had recently died at the Society's menagerie. The precise locality from which this animal was procured had not been ascertained; it was presented by John Abel Smith, Esq., and after living some months in the menagerie, fell a victim to the same complaint which carried off so many of the Quadrumana during the past winter.

The whole body is of an uniform deep black colour, except the throat and cheeks, which are covered with long white hair, forming a broad band which extends from ear to ear. This circumstance induced Mr. Ogilby to propose the name of *Hylobates leucogenys* for this species. There is no white mark over the eyes, as in the Hoolock, and the chin and under jaw are black, like the rest of the body. The head is remarkable for its pyramidal elevation, as contrasted with the flattened form of the same part in the Hoolock. Mr. Ogilby stated, that the only doubt he had with respect to the specific distinction of this animal, is the probability of its being the male of that described by Dr. Harlan under the name of *H. niger*. The hair of the forehead and head in general is directed backwards, towards the neck: that on the crown of the head is very long, and gives to the head that pyramidal or conical form before mentioned.

The skeleton and dentition show it to have been a young animal; the permanent teeth had not yet protruded from the alveoli. The total length of the skull (from the intermaxillaries to the occiput) is 4 inches; its greatest width is 2 inches 7$\frac{2}{3}$ lines; width between the outer boundaries of the orbits, 2 inches; from base of nasal bones to apex of intermaxillaries, 1 inch 1$\frac{2}{3}$ lines. The length of the humerus is 7 inches 2 lines; of the ulna, 8 inches; radius, 7 inches 7 lines; femur, 6 inches; tibia, 5 inches 3 lines; fibula, 5 inches 1 line.

The principal external characters of this animal may be thus expressed:

HYLOBATES LEUCOGENYS. *Hyl. niger; pilis ad latera faciei et ad gulam albis; pilis verticis longis et semi-erectis.*

Mr. Waterhouse exhibited a new species of Squirrel from the Society's collection, and pointed out its distinguishing characters, which are as follows:—

SCIURUS DIMIDIATUS. *Sci. suprà griseus fulvo lavatus, subtùs flavus; capite, corpore ad latera pedibusque rufescentibus; caudâ ferè corporis longitudinem æquante, indutâ pilis nigris, flavis atque fulvis commixtis.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin.	10	0
——— *caudæ*, ferè	7	6
——— ab apice rostri ad basin auris	1	11
——— *tarsi digitorumque*	2	3
——— *auris*	0	8

Hab. South America?

This curiously-coloured species of Squirrel was purchased at a sale, and in the same lot were specimens of *Sciurus æstuans* and *Sc. Langsdorffii*, well known South American species; it is probable, therefore, it may be an inhabitant of the same country. Its fur is very short for a Squirrel, rather harsh, and less loose than in the generality of Squirrels: the back is gray, or what might be termed an iron-gray, having a rusty hue; on the upper part of the head the rust-like tint prevails, and the muzzle is almost entirely of a rich rust colour; the sides of the head and neck are of a golden-yellow tint, and the under parts of the body are yellow: a bright rust-coloured line runs along each side of the body, and separates the yellow colouring of the under parts from the iron-gray of the upper: on the outer sides of the limbs, and on the feet, a rich deep golden-yellow hue prevails. The tail is apparently cylindrical, and not bushy; the prevailing hue of the hairs is deep rust colour, but they are for the most part more or less broadly annulated with black in the middle. The ears are slightly pointed, and well clothed with golden-yellow hairs; those on the outer side are of a bright rust colour; they have no pencil of hairs at the tip. The hairs of the moustaches are numerous, long, and of a black colour. The incisors of both upper and under jaws are deep orange.

Mr. Fraser read his descriptions of, and observations upon, some new species of Insessorial Birds, belonging to the genus *Agrilorhinus*.

"In the northern parts of South America and in Mexico," Mr. Fraser observed, "are certain small birds, resembling the Warblers in size, and in having a slender beak; they differ, however, in having the beak stronger and compressed; the upper mandible straight, or even slightly recurved; its apical portion strongly hooked, and distinctly notched; its cutting edges are curved inwards, so as to inclose the corresponding edges of the under mandible. But the most remarkable character consists in the existence of three or four small notches in the edge of the upper mandible, on either side, and behind the ordinary notch which characterizes the *Dentirostres*.

"The Prince of Musignano first noticed these peculiarities in a bird from Mexico, and described them in the 'Nuovi Annali delle Scienze Naturali,' where he used the name *Agrilorhinus* to distinguish generically the bird in question.

"I have now the honour of laying before the meeting four new species of this interesting genus; three from a collection belonging to the Earl of Derby, which I am informed was made at S^{ta} Fé de Bogota, and one from the Society's museum, the precise habitat of which is not known; there are reasons, however, for believing it to be a Mexican bird.

"The Prince of Musignano is of opinion that the genus *Agrilorhinus* has affinities both with the *Sittinæ* and *Sylvicolinæ*. The strong notch in the upper mandible, its distinctly curved point, and the compressed form of the beak, combined with the well-developed *vibrissæ*, lead me to believe that this genus ought rather to be regarded as a somewhat aberrant form of *Laniadæ*.

Agrilorhinus Bonapartei. *Agr. in toto niger, humeris exceptis, his cœrulescenti-cinereis.*
Long. tot. 6$\frac{5}{8}$ unc.; *rostri*, $\frac{3}{4}$; *alæ*, 3; *caudæ*, 3; *tarsi*, $\frac{7}{8}$.
Hab. S^{ta} Fé de Bogota.

Agrilorhinus humeralis. *Agr. in toto niger, humeris exceptis, his cœrulescenti-cinereis.*
Long. tot. 5 unc.; *rostri*, 7 lin.; *alæ*, 2$\frac{3}{4}$; *caudæ*, 2$\frac{1}{4}$; *tarsi*, $\frac{7}{8}$.
Hab. S^{ta} Fé de Bogota.

This bird only differs from the preceding species in its smaller size.

Agrilorhinus olivaceus. *Agr. olivaceus, corpore subtùs pallidiore, et flavido tincto.*
Long. tot. 4 unc.; *rostri*, $\frac{1}{2}$; *alæ*, 2; *caudæ*, 2; *tarsi*, $\frac{5}{8}$.
Hab. Mexico?
This specimen is probably a female.

Agrilorhinus personatus. *Agr. cœruleus ; fronte, spatio circa oculos, rostro pedibusque nigris ; remigibus rectricibusque internè nigrescentibus.*

Fœm. *plumbea.*

♂ Long. tot. $6\frac{1}{2}$ unc. ; *rostri,* $\frac{3}{4}$; *alæ,* 3 ; *caudæ,* $2\frac{3}{4}$; *tarsi,* $\frac{3}{4}$.
♀ ——— $5\frac{3}{4}$ — ; ——, $\frac{5}{8}$; —, $2\frac{5}{8}$; ——, $2\frac{3}{8}$; ——, $\frac{3}{4}$.

Hab. S^{ta} Fé de Bogota.

This bird is about the size of the Blue Bird (*Sialia Wilsoni*) of North America ; its blue colouring is much darker, and less brilliant. The bill is strong, long, and compressed, and suddenly bent downwards at the apex ; the lower edge of the upper mandible is curved inwards and encloses the cutting edges of the lower one, but it is not notched as in the more typical species of *Agrilorhinus*. The forehead, a broad space around the eye, and the ear-coverts, are black : the chin is blackish. The feathers of the wing are blackish, but externally edged with blue ; and so are the tail-feathers.

March 10, 1840.

Professor Owen in the Chair.

A paper by Dr. Richardson, on a collection of Fishes, was read:

The proceedings of the Society for June 25, 1839, contain the first part of the description of this collection, which was made at Port Arthur in Van Diemen's Land, by Deputy-Assistant-Commissary-General Lemprière, pursuant to the directions of His Excellency Sir John Franklin, K.C.B. &c., Lieutenant-Governor of the colony. The subject is resumed in this paper, and the author describes a Dajao, which differs from the three known mullets of Australia in many particulars, and from all the *Mugiloideæ* described in the *Histoire des Poissons*, in the greater number of rays of the anal fin, as well as in the combinations of other characters. The only Dajao mentioned in the work referred to, is an inhabitant of the mountain streams of the Caribbee Islands; while the Van Diemen's Land one has been found only in the sea; but perhaps both are anadromous. The rough plates on the palate and vomer of some acknowledged typical mullets assimilate their dentition greatly to that of the Dajaos; and the present species approaches the ordinary mullets in the form of the orifice of the mouth, while its palatine and vomerine teeth are nearly as large as those on the jaws. It is prized as an article of food.

Dajaus Diemensis (Richardson). *Tasmanian Dajao.*

Dajaus, rostro ferè truncato, vix prominente.

Radii:—Br. 6—6; P. 15; D. 4—1 | 9; A. 3 | 12; V. 1 | 5; C. $14\frac{5}{4}$.

The author next remarks that of four *Labri* in the collection, two species, comparatively little ornamented, are furnished with six gill rays, while the other two, more gaily coloured, and one of them indeed brilliantly striped, have only five rays in the branchiostegous membrane. They are all true labri, but the scales which protect their *opercula*, though in fact much larger than those of *Labrus bergylta*, are so deeply imbedded in mucous skin, that in a recent state these fish might pass for examples of the genus *Tautoga*, which they further resemble in possessing a tolerably regular inner row of minute teeth. They are without scales on the interoperculum, and the small scales on their cheeks being variously distributed, furnish specific characters. All four have canine teeth at the corners of the mouth, and, contrary to the prevailing character of the *Labri*, the soft rays of the dorsal exceed the spinous ones in number, resembling in this respect the *Labrus pœcilopleura* of New Zealand.

Labrus tetricus. *Lab., squamis minutis in ordinibus duobus ad* *marginem anteriorem superiorem preoperculi instructis ; operculo squamis majoribus in seriebus ternis quaternisve dispositis tecto.*

Radii :—B. 6—6 ; P. 13 ; D. 9 | 11 ; V. 1 | 5 ; A. 3 | 10 ; C. 14.

LABRUS FUCICOLA. *Lab., squamis parvis inter oculum et preoperculum in seriebus quatuor instructis ; squamis opercularibus majusculis.*

Radii :—B. 6—6 ; P. 13 ; D. 9 | 11 ; V. 1 | 5 ; A. 3 | 10. C. 14.

LABRUS PSITTACULUS. *Lab., squamis genæ in ordinibus quatuor præoperculo approximatis, oculoque remotiusculis ; corpore ovali ; pinnâ caudæ supernè apiculatâ.*

Radii :—B. 5—5 ; P. 13 ; D. 9 | 11 ; V. 1 | 5 ; A. 3 | 10 ; C. 14.

LABRUS LATICLAVIUS. *Lab., smaragdinus, fasciis puniceis purpureo marginatis, binis lateralibus posticè in unam coalescentibus inque pinnâ caudæ productis ; pinnâ dorsi basi viridi : in mediâ latè purpureâ : supernè aurantiacâ, purpureo guttatâ, inque margine extremo cæruleâ ; pinnâ ani basi aurantiacâ, dein primulaceo-flavâ cæruleo cinctâ, exinde purpureâ cæruleis guttis, denique in margine extremo cæruleâ**.

Radii :—Br. 5—5 ; P. 12 ; V. 1 | 5 ; D. 9 | 11 ; A. 3 | 10 ; C. 14.

Then follows the description of a small *Odax*, known at Port Arthur by the name of "Kelp fish." It agrees with *Odax semifasciatus* of the *Histoire des Poissons* in many of its details, but on a minute comparison with the description of that species it appears to be distinct.

ODAX ALGENSIS. *Od. capite longiusculo ; præoperculo denticulato ; facie utrinque sex-striatâ.*

Radii :—Br. 5—5 ; P. 14 ; D. 17 | 12 ; A. 2 | 12 ; V. 1 | 4. C. $12\frac{3}{3}$.

Another species of kelp-fish common at Port Arthur, and of which a specimen was sent by Mr. Lemprière, but too much decayed for identification, is described by that gentleman as being marked with a dark stripe. It is probably the *Odax balteatus* of the *Histoire des Poissons* which was discovered by Peron.

The author then describes a new scaroid fish which did not form part of Mr. Lemprière's collection, but which there is reason to believe was taken either at Hobart Town or Sydney. It was presented to the Museum of Haslar by Mr. Conway, formerly medical superintendent of a convict ship, and since deceased. The specimen being a mounted one, no details of internal structure can be given, and in so far the characters of the genus or sub-genus are incomplete ; but it differs from the ordinary *Labri* in the scaliness of the vertical fins, and from *Scarus* in external aspect, the form of the fins, the smallness of the scales, especially at the base of the caudal fin, and in the manner in which the lips cover and move with the jaws. It differs from *Odax* in the teeth and ventral fins.

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* The character of this species being rendered obscure in the abstract of the former paper by the omission of a word in printing, is here repeated.

Oplegnathus, *genus novum*.

Corpus ellipticum, crassum, squamis parvis oblongis tectum. *Mandibulæ* modo *Scarorum* dentes incorporatos gerentes. *Labium* superius basi profundè sulcatum, intermaxillas ferè tegens, et cum illis movens. *Operculum* osseum altè sinuatum, hinc bilobatum, cum genâ squamis parvis tectum. *Dorsum* monopterygium. Costæ branchiostegæ quinque. *Pinnæ* ventrales ponè pectorales sitæ, radiis quinque ramosis et uno aculeato sustentatæ. *Radii* aculeati pinnarum dorsi anique fortes. *Fasciæ* squamosæ inter radios articulatos pinnarum verticalium decurrentes.

Op. Conwaii, *species unica cognita.*
Radii :—Br. 5—5; P. 18; V. 1 | 5; D. 12 | 12; A. 3 | 12; C. $15\frac{4}{4}$.

In Mr. Lemprière's collection there are three specimens of *Ostracion* which the author considers as examples of the *Auritus* of Shaw, of different ages, and one which he characterizes as a new species, also belonging to Mr. Gray's sub-genus *Aracana*. They are known at Port Arthur by the name of "Pig-fish."

Ostracion spilogaster. *Ostr.* (*Aracana*), *ventre maculato; lateribus dorsoque fasciis interruptis ornatis, quarum quatuor sub oculo numerandis, tribus in basibus pinnarum dorsi anique et tribus propè finem pinnæ caudæ anastomosantibus.*
Radii :—P. 11; D. 11; A. 11; C. 11.

The three following species are also from Van Diemen's Land, though not now characterized for the first time.

Ostracion auritus (Shaw). *Ostr.* (*Aracana*), *ventre pallenti unicolore; lateribus dorsoque lineis saturatis rectis curvisque ornatis, quarum quinque sub oculo numerandis, et tribus in propriis basibus pinnarum dorsi, ani, caudæque.*
Radii :—P. 11; D. 11; A. 11; C. 11.

Ostracion flavigaster (Gray). *Ostr.* (*Aracana*), *ventre pallido unicolore, lateribus dorsoque lineis saturatis percursis, quarum octo sub oculo numerandis, totidemque lineis pallidis interjacentibus; in basi pinnæ caudæ lineis quinque pallidis et tribus in basibus pinnarum dorsi caudæque.*

Ostracion ornatus (Gray). *Ostr.* (*Aracana*), *lateribus dorsoque albo tessellatis; facie ventreque lineis purpureis, fuscis, et albidis numerosis, percursis; fasciis sex obscuris in pinnâ caudæ, sub finem anastomosantibus.*

Monacanthus rudis. (Nob.) *Grey Monacanthus. Mon.* (*nec paleari extensivo, nec caudâ setosâ, nec corpore papilloso vel penicelligero præditus;*) *retro-scaber; colore* (*murino ?*) *immaculato;*

rostro mediocri ; dentibus latis in serie duplici dispositis, decem superioribus sex inferioribus ; aculeo dorsali subulato, spinifero ; pinná caudæ rotundatá.
Radii :—P. 14. D. 2 | 35 ; A. 34 ; C. 12.

This *Monacanthus* known at Port Arthur (as well as the *Aleuteres* described below,) by the name of "Leather Jacket," attains the length of a foot or more, and is considered to be a good fish for the table, the skin being removed before it is cooked. After long maceration in spirits it has a dull greyish-brown hue, without any traces of spots or other configurations of colour, and the species also wants the extensible dewlap, the bristly tail, pedunculated warts or branching cirri, which characterize other groups of *Monacanthi.*

ALEUTERES MACULOSUS (Nob.). *Speckled Leather Jacket. Al. retro-scaber, sub-ovalis, ventre prominulo ; angulis quatuor aculei dorsalis spiniferis ; pinná caudæ rotundatá, sub finem nigro fasciatá ; corpore colore murino ? nebuloso-guttato.*
Radii :—P. 11, aut 12 ; D. 2—34 ; A. 32 ; C. 12.

This is a small Aleuteres, seldom exceeding five inches in length, and having a sub-oval form, the back being less arched than the belly. The dorsal and anal fins are arched, the curvature being more abrupt anteriorly. The dorsal spine is four-sided, with rows of prickles pointing downwards on each of the angles. The minute second spine is very slender. As has been remarked by Salvian, this small spine aids like a trigger in fixing the large one in any required position. The colour of the fish after being kept in spirits is dull olive-brown or mouse-colour, with scattered clusters of small dark spots. The subterminal black band on the caudal fin is very faint.

ALEUTERES PARAGAUDATUS (Nob.). *Trim Leather Jacket. Al., retro-scaber ; dorso depresso ex ore usque ad pinnam secundam ferè recto ; ventre regulariter arcuato ; pinná caudæ rotundatá, sub finem nigro-fasciatá ; colore corporis murino ; fasciá pallidá (flavá) è mento per pinnam pectoralem medio in latere tractá, sub quá lineá cœruleá ; lineá alterá cœruleá è mento per oculum et ultra extensá ; corpore subtùs et posticè cœruleis guttis pulchrè interstincto.*
Radii :—P. 12 ; D. 2—34 ; A. 32 ; C. 12.

This handsome Aleuteres is named in allusion to the striped upper vestments of the Roman ladies. Like the preceding, it is a small-sized fish. One of our specimens had the gut and the whole abdomen distended by a large *Idotea*, full of roe, not at all crushed, and apparently little digested : a portion of its tail fin protruded at the anus of the *Aleuteres.*

The *Aleuteres Ayraud* of Shark Bay (Quoy et Gaimard) differs from this and the preceding species in the dorsal spine having only two rows of prickles, and in the dorsal fin having a concave outline, and reaching to the caudal fin. It is also differently striped, and no spots are mentioned. The *Aleuteres spilomelanurus* taken by the same naturalists at Port Jackson resembles the Port Arthur fish in the form of the dorsal spine and shape of the three vertical fins, but the numbers of the rays in the dorsal and anal are different; there are no spots on the body, and merely a single dark line extending from the angle of the mouth along the higher part of the sides. In both the Port Arthur *Aleuteres* the minute prickles of the skin, when examined by a good microscope, appear to be solitary, and to spring from a globular base.

CALLORHYNCHUS TASMANIUS (Nob.). *Tasmanian Callorhynchus. Call., pinnis pectoralibus ad ventrales haud attingentibus; pinnâ dorsi secundâ pone ventrales incipienti, ante lobum anteriorem inferiorem pinnæ caudæ desinenti.*

This species agrees with the *Callorhynchus Smythi* of Bennet, figured in Beechey's Zoological Appendix, in the distance between the pectorals and ventrals, but is so unlike that figure in other respects that it is impossible to assign it to that species. *Call. Antarcticus* has large pectorals whose tips overlie the base of the ventrals.

NARCINE TASMANIENSIS, (Nob.). *Tasmanian Narcine.*

This species has not yet been compared with *Narcine capensis*, but it is most probably distinct. A full description is given in the paper, to enable authors who have the opportunity of seeing figures or recent specimens of *Narcine capensis*, to point out the differences. It is named " Ground Shark" at Port Arthur and Hobart Town.

SYNGNATHUS ARGUS (Nob.). *Ocellated Pipe-Fish. Syng., depressus, latus, pinnis pectoralibus dorsique præditus; ventralibus caudæque orbatis; dorso maculis oculeis ornato; maculis albis unâ serie in margine ventris dispositis.*

This very handsome pipe-fish differs from all the groups of species indicated in the Règne Animal, in having pectoral fins, while the caudal and ventrals are wanting. It did not form part of Mr. Lemprière's collection, but is said to have been presented to the Haslar Museum by the surgeon of a convict ship; its exact habitat being unknown.

It was mentioned in the former paper that labels of many of the specimens were detached, so that correct references could not be made to Mr. Lemprière's list. In this predicament is the 'Saw-fish' or 'Bugler,' which attains the weight of sixteen pounds, but the example sent was below the usual size. Also one of the 'Parrot Fish,' known locally as the 'Blue-head.' The *Thyrsites altivelis* is named the 'Baracoota,' and Mr. Lemprière says that there is a second species taken at Port Arthur, which has much lower dorsal spines, but is more esteemed as an article of diet. This is probably the *Thyrsites atun* of the *Histoire des Poissons*. The most choice fish in the colony is called the 'Trumpeter', and weighs, when full-sized, eight or nine pounds. A single specimen of this was sent, and is doubtless described in this or the former part of the paper.

There are also in the collection several specimens of a *Hemiramphus*, which is known locally by the name of 'Guard Fish.' They are only half the full size, which is said to be fifteen inches. Several specimens of a Diodon have all the characters ascribed to *D. nycthemerus* in Cuvier's monograph (*Mem. du Mus.*, iv.). Two species of Hippocampi are probably those described by White and Shaw as inhabitants of Port Jackson. A 'Rock Cod' taken in the sea was too much decayed for examination, the skull being all that could be preserved; and several examples of a small freshwater fish were also very much injured. The species bears the local name of 'Trout,' is said to have an olive colour, with small red spots, and to weigh when full grown about nine ounces. It is perhaps the *Galaxias truttaceus* of Cuvier, or an allied species. A 'Sea Cow' mentioned in the list may be the *Callorhynchus Tasmanius*. A *Solea* of a suborbicular form, and having a small square spot on each scale, and a freshwater *Anguilla*, remain undescribed.

A paper by G. Gulliver, Esq., entitled 'Notes on the Ova of the *Distoma hepaticum*, and on certain Corpuscles obtained from the genera *Cysticercus*, was read.

The physiology of the Common Liver-Fluke is extremely interesting, on account of the connection which this parasite has with a very frequent and fatal disease of that useful animal the sheep.

"If we obtain," says Mr. Gulliver, "from the bile-ducts of the sheep some of the larger ova of the entozoon, and subject them to careful examination, it will be found that the cyst of the ovum presents a very clear outline, the continuity of which is uninterrupted, except at one end, where a well-marked *operculum* may be seen, as represented in the drawing.

"The size of these ova differs considerably; their average length is about $\frac{1}{250}$th of an inch, and their breadth $\frac{1}{400}$th.

"The interior of the cyst is occupied by granular matter, often contained within secondary and more delicate cysts or cellules, generally of a circular figure, and occasionally having within them a third still smaller cyst. The diameter of the latter is about $\frac{1}{4000}$th of an inch, and of the secondary cysts $\frac{1}{1500}$th of an inch is a common size, although their magnitude is very variable. The granules within the cells or cysts also differ much in size, but they are very commonly about $\frac{1}{8000}$th of an inch in diameter.

"When the ova of the *Distoma* are compressed forcibly, the operculum is lifted up, or even separated entirely, and the granular matter extruded, with its containing cells or cysts generally broken.

"The operculum does not appear to exist in the smaller and immature ova. The drawing No. 2. represents this in some ova obtained from the uterus of the Fluke.

"Whether what is commonly called the ovum of the entozoon, may not be a cyst containing numerous ova within it, and furnished with an operculum, to allow of their extrusion when mature, and fit for propagation, appears to me to be an interesting question. At all events it should be ascertained if the cysts be discharged with the dung of the diseased sheep, whether the granules have escaped or not, and whether they are to be found in the pasturage of those localities, where the entozoon is sometimes known to be propagated so quickly as soon to infect entire flocks of sheep.

"I could never see anything like a small fluke in the outer cyst, at any period of its growth, although the operculum was often observed just ready to open and give exit to its contents, as above described.

"The granules may possibly be regarded as yolk-globules, in which case I apprehend the numerous secondary cysts, or cells, must be considered as so many different yolks.

"*On the oval Corpuscles of the Cysticercus.*

"If the opake part near the head of this entozoon be gently pressed, a little rather viscid fluid will escape, which on examination will be found to be pervaded by a great number of oval corpuscles, presenting a very beautiful microscopic object. They have a remarkably distinct dark outline, with a brilliant surface, semitransparent, and apparently homogeneous, except very rarely, when they appear to contain an inner corpuscle or cellule.

"They are generally but slightly oval, their length often scarcely exceeding their breadth by a third, as exhibited in the drawing, though they may occasionally be seen nearly twice as long as they are broad. A common size of the corpuscles is about $\frac{1}{1300}$th of an inch long, and $\frac{1}{2000}$th broad.

"The bladder-like body of these hydatids is everywhere pervaded by distinct spherules, presenting a bright oil-like appearance, varying in diameter from $\frac{1}{20000}$th to $\frac{1}{4000}$th of an inch. They have no resemblance whatever to the oval corpuscles.

"Hydatids are described as being without discernible generative organs. Whether the remarkable oval corpuscles shown in the drawing be ova or gemmules, must be determined by future observation. That they are the former appears probable, from their form and general regularity of size. Besides they are situated in one particular part of the parent, never appearing in the walls of the transparent sac. If this conjecture should be confirmed, the cysticercus can no longer be regarded as destitute of any distinct generative organ, for the part in which the ova are contained will correspond to the uterus of the higher entozoa, and probably lead to a further knowledge of the method by which the different species of this genus are propagated.

"I am indebted to the kindness of Mr. Siddall for the accompanying drawings, which have been made by the aid of the camera lucida. As they were taken from dried specimens, the internal structure of the ova of the *Distoma* is not well exhibited, though the form is faithfully shown."

Mr. Lay exhibited a small Bird's Nest from Borneo, and a species of *Ateuchus* from China, together with the ball which it forms for the protection of its eggs. He also made some remarks on a species of *Gobiocephalus*, found in the Sea of Japan.

March 24, 1840.

William Yarrell, Esq., Vice-President, in the Chair.

Mr. Waterhouse laid before the Meeting the Society's collection of *Caviidæ*, upon which he made some observations.

There not being a sufficient number of Members present to constitute a quorum at the Meetings on April the 14th and 28th, and May the 12th, the Society adjourned to May the 26th.

May 26, 1840.

William Yarrell, Esq., Vice-President, in the Chair.

A letter from Hugh Cuming, Esq., was read. This letter is dated Manilla, November 5, 1839, and gives an account of some cases of specimens forwarded to the Society. Mr. Cuming states that he has not yet been successful in procuring a certain Ruminant, known by the name Tamaroo, but he entertains hopes of having a specimen forwarded to England after him, he being about to return. With the exception of this animal, he had procured all the quadrupeds of the Philippines of which he could obtain any information. The letter, moreover, states that he observed two varieties of the Monkey he had sent home (*Macacus cynomolgus*), and which is the only species found in the Philippine Islands; one was variegated with black and white, and the other is of a light chestnut colour, and varied with white. Only one of each of these varieties was seen by Mr. Cuming, and the variety was, in both cases, in company with ordinary coloured individuals.

A letter from the President of the Society, the Earl of Derby, was also read; it is dated Prescot, May 13, 1840, and relates to some crosses which have taken place among the animals in his Lordship's menagerie. " A female common Zebra (*Equus Zebra*)," says his Lordship, " has lately taken to my young Dshiggetai (*Equus hemionus*), and is the only animal he has yet appeared to notice in this way. The produce, if any, would, I should think, be curious.

" I think I have often heard that Foxes will not breed in confinement, but I have a female which, about two days since, produced three young; they only lived about two days. The sire is from America."

His Lordship has reason to believe that a female Fox also produced a similar litter about four years back, but destroyed them.

On the 'Great Water' of his Lordship's park, a Bernicle paired with, and constantly accompanied, a Canada Goose, but there was no produce; this happened last season. In the present one the same Bernicle has paired with a white-fronted Goose, and the pair have a nest with nine or ten eggs. It is not known, in either case, which was the goose and which the gander.

The Polish Swan has bred with the common species, and his Lordship further states, that this year a pair of their cross-breed have laid again, but the eggs are not yet hatched.

In a letter from Madame Power, dated Messina, March 25, 1840, which was read, that lady states that she had forwarded for the Society's museum some packages containing some bird-skins, and also some molluscous animals and zoophytes, preserved in spirits, from Sicily.

A paper by John Wyllie, Esq., describing the peculiar structure of the branchial appendages of one of the Indian *Siluridæ*, was read.

"The fish to whose singular branchial appendages I wish to draw the attention of the Society," says Mr. Wyllie, "is named 'Singee' in the Mahratta, and 'Bichoo-Mutchie' (Scorpion Fish) in the Hindostanni language. It is the *Silurus Singio* of Dr. Hamilton's 'Fishes of the Ganges.'"

"The following description is drawn from memoranda taken at Nagpoor, December 6, 1825:—

"B. 7; D. 6; P. $\frac{1}{6}$: V. 6; A. 65; C. 14; Cirrhi, 8.

"Length of body $7\frac{3}{4}$ inches, breadth at anus one inch. Head much depressed, very hard, without scales, terminating posteriorly in three equal spinous processes, resembling a trident.

"Body elongated, much compressed; above rounded, below carinated, naked. Colour, when alive, of a very dark olive green; when dead, of a bluish black. Ventral and dorsal fins opposite; pectoral quadrangular with one very strong sharp bony ray, and six soft rays; anal extending as far as the tail; lateral line mesial.

"Cirrhi of nearly equal length, one pair arising immediately before the nostrils; another from the angles of the mouth; and a third and fourth from the lower jaw, near the angles of the mouth.

"Stomach small, with a moderate cul-de-sac; intestines equal, without cæca, of several convolutions, measuring seven inches in length.

"No air-bladder.

"The peculiar organs to which I wish to direct attention are situated exterior of the abdomen: there is one on each side, lying immediately over the transverse processes of the vertebræ; and in the angle formed between them and the spinous processes they are loosely attached to the surrounding parts, and covered only by the general integuments. They have the form of cylindrical tubes, are about the size of an ordinary black-lead pencil; they are closed at the posterior extremity, which extends within about three inches of the tail, and they open under the base of the cranium, between two of the branchial pairs. They are of loose cellular texture, of a whitish gray colour, speckled with numerous minute black points; they are traversed from one extremity to the other by a blood-vessel (vein?) of considerable size, into which numerous smaller branches open at right angles.

"These sacs are perhaps intended for reservoirs of water, to enable the animal, during its migrations from tank to tank, to maintain the gills in a constantly moist condition. They may also perhaps serve, in ordinary circumstances, as an extension of the respiratory surface, and the numerous blood-vessels that are seen on their coats would tend to give a probability to such a conjecture."

Mr. Ogilby pointed out the characters of a new species of Antelope, which was exhibited to the Meeting. This animal lived for some time in the menagerie, having been presented to the Society by W. Willshire, Esq., Corresponding Member, who procured it at Mogadore. It is closely allied to the *Antilope Dorcas* and *A. Arabica*, and most nearly resembles the latter in its colouring, but is readily distinguished by its much greater size; its total length, from the tip of the muzzle to the tail, being about forty-three inches, and its height twenty-eight inches: the ears of the Mogadore animal are moreover proportionately larger, measuring in height about $6\frac{3}{4}$ inches, or rather more. Like *A. Arabica*, it has a black patch on the upper surface of the muzzle, and a black line on either side of the face, extending forwards from the eye, and terminating above the angle of the mouth: the dark band on the flanks is very broad, and of a deep brown colour, inclining to black; there is also a distinct broadish black mark on each side of the rump; the fore knees are furnished with distinct black tufts. The specimen is a female, and has slender horns, about equal to the ears in length; the horns are indistinctly lyrated, in fact, nearly straight, and exhibit eleven or twelve annulations, four or five of which, at the base of the horn, are very close together. Mr. Ogilby stated that he had observed specimens of the same species in the Paris Museum, and that it was the intention of M. F. Cuvier to have described them; he should therefore propose the name *Cuvieri* be used to distinguish the species.

The Secretary also called the attention of the Members present to a species of Musk Deer, from Sierra Leone, which had been brought from that part of Africa by Mr. Whitfield, who had kindly allowed it to be exhibited to the Meeting. In general colour, and in the markings on the throat, this species most nearly resembles the *Moschus Sanleyanus*, but its body has spots and markings nearly similar to those in the *M. meminna*; it is much larger, however, than either of these species, being, in size, about midway between them and the *M. moschiferus*. The chief interest attached to this animal is the locality in which it is found, the well-established species of *Moschus* being either from the continent of India or the islands of the Indian Archipelago. Mr. Ogilby stated that the present animal could not be identified with the *Moschus Guineensis* of Brisson, Gmelin, and some other of the older authors; it was therefore necessary to give it a new name, and he proposed for that purpose the name of *M. Aquaticus*, in allusion to the peculiar habits of the species which will be described more at length in the Transactions of the Society.

June 9, 1840.

William H. Lloyd, Esq., in the Chair.

A paper from the Rev. R. T. Lowe, M.A., describing certain new species of Madeiran Fishes, and containing additional information relating to those already described, was read. The paper commences with an account of a new species of the

Family Triglidæ.

Scorpæna ustulata. *S. minor, laciniis nullis, rubra, pallido variegata nigroque punctata ; genis operculisque granulato-pustulosis, macula fusca notatis : pinnæ dorsalis medio unimaculatæ spina quarta ceteris longiore : capite s. rostro abbreviato, obtuso ; maxillis æqualibus : squamis majusculis, scabriusculis.*

D. 12+9 ; A. 3+5 ; P. 1+VII.+10 ; V. 1+5 ; C. $\frac{5+\text{VI}}{5+\text{V}}$.

Rariss.

Occasionally taken with the common sort (*Sc. scrofa*, L.), with which it agrees in general colouring, resembling rather the Rocaz (*Sebastus maderensis,* nob.) in shape. It appears undescribed, and is very distinct in its characters, being a true *Scorpæna*, notwithstanding the absence of *laciniæ*, having the whole head naked or scaleless. It scarcely attains half the size of *Sc. scrofa*, L.

Fam. Scombridæ.

Nauclerus abbreviatus, Cuv. et Val. Hist. IX. 251.

Two individuals have occurred of this pretty little fish, answering so well to the species above referred to, that it were unreasonable to doubt their identity, although its describers have omitted mentioning a strong superscapulary spine, and a fourth smaller tooth or spinule along the lower border of the preopercle, anterior to the three which arm its angle. Alive, and in a glass of sea-water, the activity and lovely colours of these little fishes rendered them most interesting objects. They were taken following a piece of floating timber; and until close examination after death, could scarcely be distinguished from the young of *Naucrates ductor*, Cuv., but for the absence of the caudal keels.

Tetrapturus Georgii.—"*Peito.*"

Having at length, through Mr. Leacock's kind exertions, obtained a fine example of the *Peito* in perfect condition, I am enabled to state that it forms a new and very distinct species of *Tetrapturus*, Rafin.; differing from *T. belone*, Raf., as described by MM. Cuvier and Valenciennes, especially in having the pectoral fins proportionally twice as long, and the body clothed with large scales of a peculiar shape and nature. I only forbear to draw up its specific character till I have checked my notes and observations by examination of more examples; but I hope to be allowed the privilege at once of commemorating by its specific name the valuable assistance rendered to the cause of Ichthyology by Mr. George Butler Leacock, of this island generally, as well as in the present instance.

Fam. Coryphænidæ.

Asteroderma coryphænoides (Bon.); *Astrodermus coryphænoides*, Cuv. et Val. IX. 353. *t.* 270.—*Diana semilunata*, Risso, Hist. iii. 267. *f.* 14.

A single small example only has occurred.

Fam. Labridæ.

Ctenolabrus iris, Cuv. et Val. XIII. 236. Rariss.

A most elegant and well-marked little species.

Julis unimaculata.—"*Peixe Verde.*"—*J. elliptico-oblonga, graciliuscula: corpore aurato-viridi, lateribus medio fascia longitudinali obscura: squamis magnis, litura rufa perpendiculate notatis: capite rosaceo-rufo, strigis fasciisve flexuosis cæruleis picto: pinna dorsali medio unimaculata analique basi squamatis: operculo postice biangulato: cauda lunata, lobis abbreviatis.*

D. 8+13; A. 3+11; P. 2+13; V. 1+5; C. $\frac{2\text{v.}\,3+\text{VI}}{2\text{v.}\,3+\text{VI}}$.

Var. α. *tæniata*: corpore 5–6-fasciato: fasciis angustis viridibus, immaculatis. Vulgatiss.

Var. β. *lineolata*: corpore efasciato, toto lituris rufis creberrimis ad perpendiculum ductis æqualiter picto. Vulg.

Blended apparently by Valenciennes (Hist. XIII. 377.) with the blue-collared *J. turcica*, Risso, under the name of *J. pavo*; as formerly by me considered merely a variety of *J. turcica*. Long-continued observations have, however, established its claim to rank as a species, which is composed of two varieties, precisely corresponding with the two of which the true *J. turcica* consists.

Fam. Gadidæ.

Merlucius ambiguus.—"*Morcégo do mar.*"

Having only obtained a single individual, I forbear attempting a specific character of this little Hake, which, in the production into a filament of the second ray of the ventral fins and grooved nape, resembles a *Motella*; wanting, on the other hand, the beards, and having no trace of any fin within the nuchal groove. From *Merlucius Maraldi*, Risso, Hist. iii. 220. it differs in the colouring; and though the upper jaw closes over the under, it scarcely can be called "longer." In Risso's fish the nape is grooved (*sillonnée*), but he says nothing of any peculiarity about the ventral fins.

The Madeiran Hake, or "Pescada," *Merlucius vulgaris* of my

Synopsis, p. 189, proves, upon better acquaintance, distinct from the common British Hake, *M. vulgaris*, Cuv., Yarr., &c. (*Gadus Merluccius*, L.). Instead of being even, the dorsal and anal fins are each produced at their hinder end into a rounded lobe; the jaws are nearly equal in length; the teeth are large and numerous; the scales small. I do not name it, for I believe it has already been called by Mr. Swainson *M. sinuatus*; and I am doubtful whether it may not also be the *M. esculentus* of Risso, iii. 220, though in his synonyms he has confounded it with the true Northern Hake. I believe it to be the fish imperfectly figured long ago by Salviana, p. 73, copied by Willoughby, *t.* L. membr. 2. *n.* 1, which has usually been referred to also for the Northern Hake.

Fam. Esocidæ.

Cypselurus pulchellus.

From want of materials for comparison, I am unable to give correctly the specific characters of this most elegant little Flying-fish, which is remarkably characterized by two or three bright rose-coloured horse-shoe-shaped marks on each side of the belly, one behind the other. The ventral fins are placed a little behind the middle of the body, not reckoning the caudal fin, and their tips reach to the base of the latter. The tips of the pectoral fins reach only to the end of the base of the dorsal fin, which is large, high, and produced. The anal fin is small and low, but a little produced backwards. The cirrate appendage to the lower jaw is like a leathern flap or apron, torn irregularly at the bottom into strips or thongs. I willingly abandon my own MS. name of *Cheilopogon* for this genus, distinguished from *Exocœtus* by the variously-appendaged lower jaw, in favour of the designation which I find this group of fishes has received from Mr. Swainson whilst this paper has been going through the press.

Fam. Diodontidæ.

Diodon Hystrix, *a.* Linn.—*D. punctatus*, Cuv.—*Histrix piscis Clusii*, &c., Will. *t.* I. 5.

A single example only has occurred.

Fam. Squalidæ.

Carcharias microps.—"*Tubarao.*"

The *Tubarao* of Madeira proves to be a genuine species of *Carcharius*, as defined by MM. Müller and Henle in the Magazine of Natural History for the year 1838, p. 35. It is remarkable for the smallness of the eye; and the teeth, as reported previously by the fishermen, are really feeble in proportion to its bulk; they are in only two rows, and precisely similar in both jaws. The tail is very large and powerful. The individual examined measured eight feet five or six inches in length. I name it only provisionally, and abstain again from attempting a specific character,—deferring, in both points, to the expected publication of MM. Müller and Henle, amongst whose indicated "twenty species" it will probably be found.

Alopecias superciliosus.

At once distinguished from the only other known species of the genus, *Carcharias vulpes*, Cuv., by the enormous eye and its prominent brow. I have at present only seen a single young example.

A paper "On Parthenia, a new genus of Recent Marine Shells or Mollusks, containing British Species," also by the Rev. R. T. Lowe, M.A., was then read.

Genus Parthenia.

Testa eximie turrita, acuminata, imperforata, plerumque lactea, epidermide pallida s. fere nulla; spira apertura longiore; anfractibus plurimis, costis striisque eleganter sculptis, sæpe cancellatis. Apertura ecanaliculata, ovata, integra: columella simplex, antice effusa, postice aliquando torta s. plicata: labrum tenue, simplex.

Obs. Testæ figura et sculptura elegantissimæ, parvulæ. *Animal* corpore admodum spirali; pallio simplici, ecanaliculato; pede antice abrupte truncato, postice attenuato exappendiculato, operculifero. Tentacula duo, triangularia s. prismatica, basi coalita, oculis sessilibus, superne ad basin internam positis, approximatis. Buccæ labiales coalitæ, infra tentacula exsertæ, proboscidem abbreviatam, depressam, profunde emarginatam s. bilobam referentes. Operculum aperturæ fere magnitudine, corneum, tenue, ovatum, integrum; nucleo . . . . . . ?

Obs. Animal marinum, branchiis pectinatis, corpore capiteque simplicibus, sc. nec velo nec membranis neque ciliis instructum. Tentacula figura fere *Limnææ*; sed elongatiora, e membrana longitudinaliter ab apice ad medium basis conduplicata constare videntur. Figura pedis inter Gasteropodes non siphoniferos infrequentior, in *Rissois* tamen æque obtinet.

Genus et animale et testa distinctissimum, cum *Melaniis*, *Eulimis*, *Turritellis*, &c., a testaceologis recentioribus diutius confusum.

The group proposed for generic distinction consists of several shells remarkable for their elegance of form and sculpture, but which it has been neither easy to associate with others in established genera, nor advisable, in the absence of all knowledge of the animal, to place apart. Accordingly, they have been variously arranged by different authors. Philippi, in his excellent *Enumeratio Molluscorum Siciliæ* (Berol. 1836), whilst uniting some of them with several species of *Eulima*, Sow., under the head *Melania*, Lam., has not failed to remark their discrepancy as marine shells from the last-named genus, and to point out the probability of their formation into a genus or subgenus, "quando animalia eorum cognita erunt": the species which belong to *Eulima*, Sow., being, after Bronn, considered by him to be congeneric with *Niso* of Risso. The genus *Eulima*, as proposed by Risso, consisted of the same exceptionable kind of mixture; but being now ably defined by Sowerby, and restricted within its proper limits to the latter of these groups, the type of which is the *Turbo politus* of some British authors, I am induced to bring forward, in relation to the other, some materials obtained twelve or thirteen years ago, which at the time indeed immediately suggested the formation of the genus *Parthenia*, but which the progress of Conchology, in the more recent establishment of *Eulima*, seems to have rendered really interesting.

The genus *Turbonilla* (rectius *Turbinella*) of Risso, though perhaps composed in chief of true *Partheniæ*, is not so constituted, even should this supposition prove correct, as to supersede or clash with the reception of *Parthenia*. Its definition is extremely incomplete and faulty, and it differs no less in its limits than its constitution; whilst its very author places in his *Eulima* and in *Turritella* some undoubted species of *Parthenia*. The name, moreover, rightly spelled, is long preoccupied by a well-known genus of Lamarck.

The group, however, constituted as above, appears sufficiently distinct from every other. From *Melania* it is distinguished primarily by being marine instead of fluviatile, and in the shell being destitute of a dark-coloured epidermis. It differs from *Rissoa* or *Cingula*, Flem., in the animal, much as *Limnæa* does from *Physa*, and in the shell, as *Turritella* does from *Littorina*; whilst from *Eulima*, Sow., the shells are at once distinguished by their rough or sculptured, ribbed, and generally cancellated surface; and the animal wants the lateral membranes and subulate tentacula of *Turritella*, from which the shells also differ in the transverse ribs or plaits of the volutions, and in the shape of the aperture and of the opercle, the nucleus of which is also probably eccentric and anterior; but this, without destruction of the specimens, I cannot ascertain.

The name is formed from *παρθενος*, a virgin; the word *παρθενια*, virginity, expressing well, in contrast with *Melania*, the simple elegance and purity so remarkably characteristic of these shells, which are wholly colourless, and of a spotless milk or ivory whiteness.

Several recent species of this group are found in the Mediterranean, and two at least in the British seas. Others appear also to occur subfossil, in the tertiary beds of Sicily and Nice.

The animal of the shell, called by Montagu *Turbo unidentatus* (*Odostomia* of Fleming), would appear, from the observations of my friend, the Rev. M. J. Berkeley, to be very similar. But the shell, in most points, differs, except in having a fold or plait upon the columella. Still future observations may warrant possibly the modification of the characters of *Parthenia*, for the reception of this shell and its allies.

Species quædam.

1. Parthenia bulinea. *P. testa subcylindraceo-attenuata, oblongiuscula, juniore ovato-tereti: anfractibus planis, elegantissime reticulato-cancellatis, striis spiralibus crebris æquidistantibus, transversas æquidistantes decussantibus; sutura distincta impressa: columella postice torta, uniplicata.*

α. subventricosa.

$$\frac{\text{Lat.}}{\text{Long.}} = \frac{1\frac{1}{2} - 1\frac{2}{3}}{5}\ \text{lin.} : \frac{\text{Long. apertæ.}}{\text{Long. testæ}} = \frac{1\frac{1}{2}}{5}\ \text{lin. vel } \frac{3}{10}\ \text{millim.}$$

Turbonilla Humboldti, Risso, Hist. IV. 394. *f.* 63. male. *Testa junior.*

Tornatella ? clathrata, Phil. Enum. 166.

β. gracilis, angustata.

$$\frac{\text{Lat.}}{\text{Long.}} = \frac{1\frac{1}{4} - 1\frac{1}{3}}{5}\ \text{lin.} : \frac{\text{Long. apertæ.}}{\text{Long. testæ}} = \frac{1\frac{1}{2}}{5}\ \text{lin.}$$

Anfractus 8 in utraque varietate.

Hab. in mari Maderensi, rara; vv. Animal omnino lacteum.

Dredged in deep water in the bay called Labra at P^{ta} Saõ Lourenço, in the spring of 1827, by H. Richardson, Esq. This shell in form resembles a *Bulinus.*

2. Parthenia Terebra. *P. testa elongato-turrita, gracili, sensim attenuata: anfractibus convexiusculis, transverse obsolete costatis s. plicatis, striisque exiguis, concinnis, crebris, spiralibus, alias creberrimas, transversas, tenuissimas, plicasque decussantibus: sutura distincta, impressa.*

$$\frac{\text{Lat.}}{\text{Long.}} = \frac{2}{7}\ \text{lin.} : \frac{\text{Long. apertæ.}}{\text{Long. testæ}} = \frac{1\frac{1}{2}}{7}\ \text{lin.}\quad \text{Anfr. 12.}$$

Turritella cancellata, Risso, Hist. IV. 110. *f.* 40 ?

Hab. in mari Maderensi cum priore rariss. v. m.

Of two examples dredged up without the animal, one is in perfect condition. The columella is quite simple, without any fold or plait. The whole shell is sub-opake or milk-white, and in form resembles a *Turritella.*

3. Parthenia elegantissima. *P. testa elongato-turrita, gracili, sensim attenuata, lævi: anfractibus convexiusculis, costis transversis validis, latis, obliquis, confertis, æquis sculptis: interstitiis lævibus, costis angustioribus: sutura simplici, distincta: columella postice subtorta.*

$$\frac{\text{Lat.}}{\text{Long.}} = \frac{\text{vix } 1}{3}\ \text{lin.} : \frac{\text{Long. apertæ.}}{\text{Long. testæ}} = \frac{\frac{3}{4}}{3}\ \text{lin. vel } \frac{1\frac{1}{2}}{6\frac{1}{2}}\ \text{millim.}$$

Anfr. 9–11.

Turbo elegantissimus, Mont. Turt., &c., &c.
Turritella elegantissima, Flem. Brit. An. 303. *n*°. 218.
Eulima elegantissima, Risso, Hist. IV. 123. *n*°. 296.
Melania Campanellæ, Phil. Enum. 156. *t.* 9. *f.* 5 ?

Hab. in mari Britannico, Mediterraneo; Maderensi, rariss. vv. Animal lacteum, omnino ut in *P. bulinea*, nisi quod tentacula obtusiora sunt.

Dredged with the former. Found also in 1824 at Sheean Ferry, near Appin, in Argyleshire.

Aliæ species videntur:

4. *Parthenia crenata* (*Turbo crenatus*, Mont. inedit. *Melania rufa*,

Phil. Enum. 156. *t.* 9. *f.* 7 ?) ; quæ a *P. elegantissima* interstitiis costarum spiraliter striatis potissimum differt.
Hab. in mari Britannico rariss. vm.

5. *Parthenia pallida.* *Melania pallida,* Phil. Enum. 157. *t.* 9. *f.* 8.
An *Turbo unicus,* Mont. Turt. Dict. 209, &c.
Hab. in mari Siculo (Britannico ?).

6. *Parthenia scalaris.* *Melania scalaris,* Phil. Enum. 157. *t.* 9. *f.* 9.
An *Turbo simillimus,* Laskey, Turt. Dict. 209 ?
Hab. in mari Siculo (Britannico ?).

The genus *Turbonilla* of Risso (Hist. IV. 224. *ff.* 70. and 72.) appears to contain some fossil species also of *Parthenia,* besides the recent one above referred to. Other species are indicated by Philippi as figured by Brocchi.

The following paper was next read. It is entitled "Observations on the Blood Corpuscles of the Snowy Owl and Passenger Pigeon," by George Gulliver, F.R.S., Assistant Surgeon to the Royal Regiment of Horse Guards.

"Although I have found generally less difference in the blood corpuscles of birds than in those of the Mammalia, yet in some of the former there are peculiarities in the size and shape of the red particles, which appear to me, after a careful examination of the blood of upwards of two hundred different species, deserving of especial attention. As examples of this kind, I select from my notes an account of the blood corpuscles of the Snowy Owl and Passenger Pigeon, and, by way of comparison, of one or two other allied species.

"In the following measurements, as noted in the first observation, the common-sized corpuscles are first indicated ; then the small and large extremes, and lastly, the average size, deduced from the whole. They are all expressed in fractional parts of an English inch.

Obs. 1.

In the Snowy Owl (*Surnia nyctea*).

Long Diameter.		Short Diameter.	
1·1600 1·1500 1·1455	Common sizes.	1·4000 1·4570	Common sizes.
1·2000 1·1333	Extreme sizes.	1·5333 1·3000	Extreme sizes.
1·1550	Average.	1·4042	Average.

The nuclei of the corpuscles, exposed by the action of acetic acid, were generally 1–3200th of an inch long, and 1–10666th broad.

Obs. 2.

In the Common Brown Owl (*Syrnium Aluco*).

Long Diameter.	Short Diameter.
1·2000	1·4000
1·1895	1·3555
1·1777	1·5333
1·2400	1·3000
1·1714	
	1·3801
1·1930	

Obs. 3.

In the Passenger Pigeon (*Columba migratoria*).

Long Diameter.	Short Diameter.
1·2133	1·4800
1·2000	1·4570
1·1895	1·5333
1·1777	1·4000
1·1714	
1·2666	1·4626
1·1542	
1·1909	

Obs. 4.

In the Russet Pigeon (*Columba rufina*).

Long Diameter.	Short Diameter.
1·2400	1·3428
1·2286	1·4000
1·2666	1·3000
1·2000	
	1·3429
1·2314	

"From the observations on the blood corpuscles of the Snowy Owl, it results that their average long diameter is 1–1550th, and their average short diameter 1–4042nd of an inch, so that their length is considerably above twice and a half greater than their breadth; while in the Brown Owl the corpuscles are scarcely twice as long as they are broad.

"Now both the absolute size of the latter, as well as the relation between their long and short diameters, approach very nearly to the dimensions frequently presented by the corpuscles of various birds. But in the Snowy Owl the corpuscles are not only peculiarly long, in proportion to their breadth, but their absolute length is much greater than is often to be found in the red particles of other birds, whether belonging to the rapacious order or not. Indeed it is probable that the difference generally between the blood-disks of any two orders of birds is not greater than that now indicated between the disks of two species of one natural family, the *Strigidæ*.

"The corpuscles of the Snowy Owl, therefore, are very remarkable and characteristic, as any one may immediately see who will take the trouble to compare them with those of the Common Brown Owl. I have examined the blood of several other species of this family, and find the size and shape of the corpuscles of the Barn Owl (*Strix flammea*) to approximate most nearly to those of the Snowy Owl.

"It will be seen that the nuclei of the blood particles of the Snowy Owl, exposed by acetic acid, were fully three times the length of their breadth; and it may be noticed incidentally, that in most birds the nuclei thus exhibited have a more elongated ellipse than the outline of their envelopes*.

"We might expect to find an exact resemblance between the elementary parts of such a truly natural family as the *Columbidæ*, and yet the observations show a striking difference between the blood corpuscles of the Passenger and Russet Pigeons, the average long diameter of the former being 1–1909th, and the short diameter 1–4626th of an inch, while the latter are 1–2314th of an inch long, and 1–3429th broad. Although I have examined the blood of many different species of the *Columbidæ*, in no instance did the corpuscles agree in figure with those of the Passenger Pigeon; in the Turtle Dove (*Columba Turtur*) the long diameter appeared to be nearly similar, but the short diameter agreed with that observed in the disks of the Russet Pigeon. Hence there was a remarkable difference in shape, and the corpuscles of the Passenger Pigeon, as far as I have yet ascertained, are quite peculiar, since the singularly narrow ellipses which they present have not hitherto been found in the red particles of other species of the *Columbidæ*.

"It should be recollected, however, that the results of my observations may exhibit differences rather apparent than real, since our knowledge of the blood corpuscles is at present so limited, that we are not sure whether their size and shape may not be subject to some variation in relation to season, to the habits, or to certain conditions of the animal. In Man, and some of the other Mammalia, I have seen remarkable changes in the appearance of the blood corpuscles, apparently in connection with disease; and their size and shape are undoubtedly liable to modifications, from the effect of causes which have not yet been clearly explained. The observations recorded in this paper have been made with so much care, to obviate any source of fallacy, that I am disposed to place much confidence in the results; but even if it should ultimately appear that the differences which I have described are not permanent, but merely within the limits of variation to which the blood-disks are liable, this would be some addition to our knowledge of these curious bodies, and would, at all events, be sufficient to reconcile the numerous discrepancies apparent in the measurements of various eminent observers.

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* See Dublin Medical Press, No. 59, March 4, 1840.

"In conclusion, it may be remarked, that however paradoxical the history of the red particles may be, still, that of the blood generally is in many respects equally so. As we can only expect to obtain a knowledge of the physiology of the corpuscles by the multiplication of observations, it is especially desirable that persons residing abroad should avail themselves of opportunities of examining the blood of such animals as are not easily to be seen alive in this country. Among the birds, it may be mentioned that an examination of the blood of the different species of Temminck's orders *Anisodactyli* and *Inertes* is especially required; and when made, it is not improbable that some interesting results may be obtained."

June 23, 1840.

William Yarrell, Esq., V.P., in the Chair.

A letter from the Society's Corresponding Member, Dr. Cantor, was read. The writer states that he is on his way to Penang, Sincapore, and China, where he hopes to make extensive collections of objects of Natural History for our museums.

Dr. Cantor also states that he met with a specimen of the *Ursus Syriacus*, or *isabellinus*, in captivity. This animal is not known to the natives of Bengal, but abounds in the mountains of Cashmere, where the natives know it by the name '*Reetck*' or '*Ritck*.' The dimensions of the specimen referred to are—total length (the very short tail not included), four feet two inches; height at the shoulders, three feet; height at hip, two feet eight inches.

The Rev. F. W. Hope read a paper entitled "Observations on the *Stenochoridæ* of New Holland, with descriptions of new species."

Of this paper the following is an extract:—

Fam. STENOCHORIDÆ, Leach.

Type of the family *Stenochorus semipunctatus*, Fab.

Section 1. *Armigeri*.

Antennis thoraceque spinosis, apicibus elytrorum bidentatis.

Sp. 1. STENOCHORUS GIGAS. *Sten. ater thorace spinoso inæquali, elytris basi nigro flavoque variegatis.*

Antennæ corpore fere duplo longiores, articulis ternis primis nigricantibus, reliquis fusco-ferrugineis, articulis intermediis apice spinosis. Caput atrum antice rufo-ciliatum palpis ferrugineis. Thorax utrinque spinosus spinis brevibus, tuberculatus, rugosus et ater. Elytra bidentata, basi nigro flavoque variegata, varioloso-punctata. Corpus infra nigrum abdomine postice piceo, femoribus atris, tibiis tarsisque fusco-brunneis et tomentosis.

Long. lin. 18½; lat. lin. 5½.

Hab. In interiori parte Novæ Hollandiæ.

This magnificent species, the largest of the genus, was given to Captain Roe, when engaged on his survey of the Australian coast; it was labelled as coming from the inner country.

In Museo Dom. Hope.

Sp. 2. STENOCHORUS LATUS. *Sten. fusco-brunneus, thorace cinereo-tomentoso, elytris flavo brunneoque variegatis. Caput cinereum. Antennæ longitudini corporis vix æquales. Thorax utrinque spinosus, spinis acutis, tomentosus et rugosus, antice binis tuberculis*

rubro-piceis insignitus. Elytra flavo-brunnea maculisque nigris variegata, macula suturali magna lunulata, ad apicem posita, corpus infra nigrum, pectore pedibus brunneo-piceis, tarsisque auricomatis.

Long. lin. 15; lat. lin. 4.

Hab. In Nova Hollandia circa Flumen Cygneum.

In Mus. Dom. Hope.

Sp. 3. STENOCHORUS LONGIPENNIS, *Sten. atro-brunneus, thorace cinereo, elytris antice flavo variegatis, postice, piceo-brunneis. Antennæ longitudine corporis, fusco-flavæ et tomentosæ. Thorax utrinque spinosus spinis acutis, ad humeros elytrorum curvatus, rugosus, tuberculo nigro et glabro in medio disci posito. Elytra elongata ad apicem parum attenuata, antice brunnea, lineis flavis longitudinalibus variegata, postice reliqua parte disci atro-brunnea. Corpus infra fusco-brunneum, femoribus tibiis pallidioribus et tomentosis, tarsisque auricomatis.*

Long. lin. 13; lat. lin. 3½.

Hab. Van Diemen's Land.

Sp. 4. STENOCHORUS MITCHELLI. *Sten. straminicolor, caput nigrum antennis flavis, thorace atro-cinereo, elytrisque flavo brunneoque variegatis. Caput atrum thorace bispinoso, spinis utrinque minutis, disco rugoso atro-cinereo. Elytra pallide flava sutura brunneisque maculis variegata. Corpus infra rubro-brunneum annulis abdominis aurato-tomentosis, femoribus et tibiis concoloribus tarsisque aurato-spongiosis.*

Long. lin. 12; lat. lin. 3¼.

Hab. In Nova Hollandia.

This singularly marked insect I have named in honour of Sir T. Livingston Mitchell, the author of one of the most interesting works which has yet appeared respecting Australia.

Sp. 5. STENOCHORUS TRIMACULATUS. *Sten. pallide flavus, antennis pedibus luteis thorace cinereo elytrisque nigro maculatis. Caput piceo-brunneum. Antennis flavis sparsimque tomentosis. Thorax utrinque spinosus, spinis brevibus, rugoso-tuberculatus et argenteo-cinereus, scutellum flavum. Elytra ad basin nigra, macula magna ovali pallide flava, ante apicem in singulo posita. Corpus infra rubro-fuscum et argenteo-tomentosum. Pedibus luteis.*

This elegant species I received from Captain Roe; it was captured at the Swan River Settlement.

Sp. 6. STENOCHORUS OBSCURUS, *Donovan. Sten. thorace rugoso spinoso, fuscus elytris antice punctato-rugosis, postice lævibus nitidis apice bidentatis.*

Long. lin. 11; lat. lin. 3.

This species appears to be of rare occurrence. I have seen only three specimens; all of them were from Van Diemen's Land.

Sp. 7. STENOCHORUS PUNCTATUS, *Donovan. Sten. thorace spinoso,*

fuscus, elytris punctatis antice subrugosis, apice bidentatis maculis tribus flavis.

Long. lin, 11 ; lat. lin. $2\frac{1}{2}$.

This species I obtained at the sale of the late Mr. Donovan's insects; it was labelled as received from Van Diemen's Land. The colour of this species in Donovan's plate is not dark enough; the variety with the basal and medial spots united on the elytra, is by no means uncommon; the species is also liable to vary considerably in size; a small specimen measured only $8\frac{1}{2}$ lines long and 2 in width.

Sp. 8. Stenochorus semipunctatus, *Fabricius. Sten. thorace spinoso, fuscus, elytris antice punctatò-rugosis, flavo-fasciatis, postice lævibus, apice bidentatis macula flava.* Vid. Oliv. 4—67. p. 37, 48; Stenoch. 69. tab. 2. f. 19 ; Enc. Méth. 5. p. 303, 56; Schonherr. Syn. Ins. vol. i. part 3. page 404. species 9.

Long. lin. 11 ; lat. lin. 3.

The localities of 'Brasilia' and 'Nova Hollandia' are mentioned by the latter author; there cannot exist a doubt that the former locality is erroneous. The species is subject to great variation. I mention some of the most particular.

Var. α. *Elytris* (*long. lin.* 8 ; *lat. lin.* $1\frac{3}{4}$) *mediis trimaculatis, maculis binis antice parvis, postica triplo majori.*

Var. β. *Elytris* (*long. lin.* 7 ; *lat. lin.* $1\frac{1}{2}$) *late flavo-fasciatis maculis nigris aspersis.*

Var. γ. *Elytris* (*long. lin.* 11 ; *lat. lin.* 3) *late flavo-fasciatis nigris binis maculis notatis, apice late flavo, spinisque concoloribus, antennis pedibusque pallidis.*

This is probably an immature specimen. It is by no means uncommon.

Sp. 9. Stenochorus angustatus, *DeJean. Sten. valde elongatus, parallelus, pubescens, fusco-cinereus, thorace subplicato, conico, lineis duabus albidis. Elytris macula laterali antica, elongata, fusca.*

Long. lin. 10; tot. 15.

In Museo M. M. DeJean et Gory.

The above description is taken from the Voyage De l'Astrolabe, by Mons. Boisduval, vide part 2. p. 475.

Sp. 10. Stenochorus undulatus. *Sten. nigro-brunneus, antennis aurato-tomentosis thorace supra tuberculato et concolori, medio disci macula elevata rubro-picea et polita. Scutellum aureo-tomentosum. Elytra fusco-brunnea, fasciis binis mediis undulatis pallide flavis apicibus concoloribus. Corpus infra rubro-piceum pedibus aureo-tomentosis.*

Long. lin. 10; lat. lin. $2\frac{1}{2}$.

This species inhabits New Holland, and was sent me by Captain Roe from the New English Settlement at the Swan River in Australia. I must remark that in this species the spines at the apex of the elytra appear unusually short, those at the suture are scarcely perceptible. I imagine therefore, as the insect is unique and much damaged, that probably they have been broken off.

Sp. 11. STENOCHORUS ASSIMILIS. *Sten. affinis præcedenti, rufo-brunneus, antennis concoloribus et tomentosis. Thorax-rufo-piceus, supra tuberculatus tuberculis quinque elevatis majoribus ita dispositis* :|: *reliquis minoribus. Elytra rufo-brunnea, fascia elongata irregulari undulata et flava apicibus flavo-maculatis. Corpus infra rufum femoribus et tibiis concoloribus et sub-tomentosis tarsisque auricomatis.*

Long. lin. $10\frac{1}{2}$; lat. lin. $2\frac{1}{2}$.

I received this insect from Van Diemen's Land.

Sp. 12. STENOCHORUS ACANTHOCERUS, MacLeay. *Sten. fusco-ferrugineus capite punctato; antennis rubris, articulo* 3^{tio}, 4^{to}, 5^{to} *et* 6^{to} *apice spinosis; ore rubro; maxillis elongatis, apice ciliatis membranaceis; palpis securiformibus; thorace obscuro utrinque unispincso margine antico tuberculisque dorsalibus utrinque posticoque semicirculari rubris; scutello rubro; elytris rubris fasciis tribus nigris undatis, ad basin inter lineas elevatas subcrenatis, apicemque versus punctatis, apice bidentatis; corpore subtus nigro nitido tomentoso pedibus rubris.*

In Mus. Dom. MacLeay.

Sp. 13. STENOCHORUS DORSALIS, MacLeay. *Sten. fulvo-piceus capite angusto labro palpisque testaceis; vertice canaliculato; thorace inæqualiter rugoso eminentia media ovali glabra tribusque aliis utrinque inconspicuis; elytris bidentatis subelevatis interstitiisque punctatis macula media suturali testacea antice subemarginata; antennis subtus villosis, articulis apice haud spinosis; corpore pedibusque piceis; femoribus incrassatis.*

In Mus. Dom. MacLeay.

Hab. In Nova Hollandia.

Section 2. *Tubericolles.*

Antennis spinosis, thorace tuberculato, haud spinoso, apicibus elytrorum bidentatis femoribusque incrassatis.

Sp. 14. STENOCHORUS UNIGUTTATUS, MacLeay. *Sten. fuscus capite cum antennis villosis, thorace inæquali rugoso, tuberculato. Elytris depressis crebrissime punctulatis, in singulo macula quadrato-elongata, et lutea fere in medio disci posita. Corpus infra rubro-fuscum tomentosum femoribus incrassatis et concoloribus, tarsis infra flavo-spongiosis.*

This species I received from the Swan River: it is subject to great variation in size. A specimen similar to Mr. MacLeay's *Uniguttatus* measures in length, lin. $10\frac{1}{2}$; lat. lin. 2. It seems likely that *Sten. elongatus* of DeJean is the same as the above species.

Sp. 15. STENOCHORUS RHOMBIFER. *Sten. affinis præcedenti at*

multo minor. Fuscus, antennis et corpore sparsim flavo-tomentosis, capite haud villoso, rubro. Thorax inæqualis et tuberculatus. Elytra depressa bidentata, macula quadrato-elongata lutea fere in medio disci posita. Corpus infra rubro-piceum nitidum, binis ultimis segmentis pallidioribus. Pedes rubro-fusci femoribus parum incrassatis tarsisque infra aureo-tomentosis.

Long. lin. 7.; lat. lin. 1¼.

I received this species in a box of insects from Mr. Charles Darwin. Its true locality is either Sidney or Van Diemen's Land.

I consider it quite distinct from Mr. Sharpe MacLeay's *Stenochorus uniguttatus.*

In Mus. Dom. Hope.

Sp. 16. STENOCHORUS TUNICATUS, MacLeay. *Sten. flavus antennarum articulis duobus primis nigris quinto apice septimo nonoque nigris; thorace subcylindrico utrinque unidentato, supra quadrituberculato tuberculis anticis majoribus; elytris apice flavis unidentatis, parte basali ultra medium subviolaceo-flava linea obliqua terminata; corpore pedibusque flavo-testaceis.*

In Mus. Dom. MacLeay.

Sp. 17. STENOCHORUS RUBRIPES, Boisduval. *Sten. elongatus parallelus; antennis pedibusque rufis; thorace angustiori, cylindrico, tuberculato, coleopteris dilute fuscis; apice spinosis, punctis crebris impressis, macula communi maxima irregulari, nigra notata, altera postica, scutelloque flavis.*

Long. lin. 10½; lat. lin. 2½.

Described from Mons. Boisduval's 'Voyage de l'Astrolabe,' vid. part ii. page 479. I had given the name of *Undulatus* to the species, and had figured it before I was aware of its being described: the sexes apparently differ considerably in size.

Sp. 18. STENOCHORUS ROEI. *Sten. rubro-fuscus; antennis pallidioribus; thorace tuberculato, elytrisque macula irregulari flava notatis, alteraque apicali lutea, spinis apice brevibus, externo longiori. Corpus infra rubro-piceum nitidum pedibus concoloribus et tomentosis.*

Long. lin. 6¼; lat. lin. 1¼.

This species was sent to me from the Swan River by Captain Roe; it is named after that indefatigable and enterprising officer.

Section 3. *Fissipennes.*

Antennæ spinosæ, thorace inæquali tuberculato seu denticulato, apicibus elytrorum transverse truncatis, haud spinosis.

Gen. COPTOCERCUS*, Hope, Nov. Gen.

Caput antice rugosum, antennis spinoso-tomentosis. *Thorax* fere cylindricus, tuberculatus. *Elytra* parallela thorace latiora ad apicem parum contracta, transverse fissa, haud spinosa. *Corpus* infra convexum, antennis pedibusque fere ut in *Sten. Roei* conformatis.

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* Koptocercus, from Κοπτω, *scindo*, and Κερκος *cauda*.

Type of the Genus, *Stenochorus biguttatus* of Donovan.

Sp. 1. Coptocercus biguttatus, Donovan, vid. pl. 2. fig. 7. *Copt. biguttatus, thorace mutico, ferrugineus, elytris antice punctato-rugosis, testaceo-maculatis, bidentatis macula flava.*

Long. lin. 8; lat. lin. 2.

I received this insect from Mr. Donovan, and therefore have no doubt respecting the individual species. The elytra, according to the above description, can scarcely be considered as bidentate; they appear as if they were abruptly broken off at their apex. The sexes vary very much in size.

Sp. 2. Coptocercus sexmaculatus. *Copt. niger; antennis brunneis; thorace tuberculato et rugoso; elytris 6 maculis luteis notatis, pedibus rufescentibus. Caput atrum antennis brunneis. Thorax utrinque denticulatus, inæqualis, rugosus, tuberculatus, macula media elevata et glabra. Elytra nigra antice varioloso-punctata, postice punctis minoribus. Sex-maculata, macula* 1ma *lutea paullo infra basin,* 2da *fere media seu melius fasciata,* 3tia *apicali pallidiore. Corpus infra cinereo-piceum; pedibus rufo-brunneis.*

Long. lin. 7; lat. lin. 1¾.

This species, which appears to have escaped the notice of entomologists, is abundant. I suspect that the male sex will have the denticulation on each side of the thorax more marked than in the female described.

Sp. 3. Coptocercus unifasciatus. *Copt. ater thorace inæquali tuberculato, elytris nigris punctatis, et flavo-fasciatis, punctis ternis, maculisque minutis in singulo, inter basin et medialem fasciam positis. Corpus infra rubro-piceum; pedibus concoloribus, aureo-tomentosis; abdomine nigro, et nitido.*

Long. lin. 6; lat. lin. 1½.

The above insect I received from Captain Roe, of the Swan River Settlement in New Holland.

Section 4. *Denticolles.*

Antennæ tomentosæ. *Thorace* utrinque spinoso; dorso dentato; elytris apice obtusis.

Gen. Trachelorachys*, Nov. Gen.

Type of the Genus, *Stenochorus fumicolor.*

Caput exsertum, oculis prominentibus, antennis corpore brevioribus. *Palpi* maxillares mandibulis longiores. *Antennæ* 11-articulatæ, 1mo cylindrico parum deformi ad basim tenuiori et externe crassiore, 2do brevi subcyathiformi, reliquis fere æqualibus, at extimo minori, apice attenuato. *Thorax* convexus utrinque spinosus, disco spinis armato. *Elytra* thorace quadruplo longiora, depressa, ad apicem obtuse rotundata et inermia. *Pedes* simplices, femoribus haud incrassatis.

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* The above word is formed of τϱαχηλος, *collum*, and ϱαχις, *a spine*.

Hab. In Nova Hollandia.

TRACHELORACHYS FUMICOLOR. *Trach. fusco niger; thorace utrinque spinoso, disco spinis quatuor fere in medio armato. Elytra parallela marginibus undique elevatis ad basim crebre granulata, granulis ad apicem e medio elytrorum magnitudine decrescentibus. Corpus infra piceo-nigrum, pedibus pallidioribus et tomentosis, plantisque aurato-tomentosis.*

Long. lin. $10\frac{1}{2}$; lat. lin. $2\frac{1}{2}$.

This insect was obtained from a collection made in the vicinity of Sydney.

TRACHELORACHYS PUSTULATUS. *Trach. flavo-fuscus antennis tomentosis; thorace concolori utrinque spinoso; spinis binis fere in medio armatis. Elytra marginata; pustulis nigris in lineis sparsim dispositis. Corpus infra fusco-rubrum; pedibus subtomentosis.*

Long. lin. 8; lat. lin. $1\frac{1}{2}$.

The above insect was purchased out of a New Holland box, along with various nondescripts; most likely they were from Hobart Town.

Section 5. *Femorales.*

Antennæ tomentosæ; thorace utrinque spinoso, dorso dentato; elytris transverse sectis; femoribus incrassatis.

Gen. MEROPACHYS[*].

Caput exsertum, antennis tomentosis articulis undecim articulatis; 1^{mo} fere ut in *Trach. fumicolori*, at externe crassiori et ovato; 2^{do} brevi et globoso; 3^{tio} triplo longiori; 4^{to} paullo breviori, reliquis gradatim increscentibus, extimo apice subacuto. *Thorax* antice et postice contractus, utrinque in medio spinosus; dorso dentato. *Elytra* depressa; thorace latiora postice latiora transverse fissa. *Totum corpus* supra et infra argenteo sericie aspersum. *Femoribus* valde incrassatis in medio fortiter globosis.

MEROPACHYS MacLeaii. *Merop. fusco-flava antennis flavis tomentosis, thorace concolori, utrinque spinoso, maculis binis atris, antice et postice signato. Elytra aurato sericie aspersa, ad humeros tuberculata, fascia nigricanti ante apicem posita. Corpus infra rubrum nigro et argenteo variegatum. Pedes flavescentes, femoribus globosis, nigro-maculatis; tibiis quatuor posticis medio atratis; tarsisque pallidis binis anticis fere omnino nigris subtusque auri-comatis.*

Long. lin. 8; lat. lin. $1\frac{1}{2}$.

This beautifully sericeous insect is named in honour of William

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[*] Meropachys is from *μηρος*, *femur*, and *παχυς*, *crassities.*

Sharpe MacLeay, Esq., from whom we may shortly expect some valuable communications relating to the entomology of Australia.

This genus appears to differ chiefly from *Trachelorachys* in having both the sexes remarkably characterized by their incrassated femora; and it is probable that, as in other New Holland Stenochoridous genera, the length of the antennæ will vary in the sexes.

Meropachys tristis. *Merop. flavo-fuscus antennis tomentosis, thorace aurato lanugine obsito. Elytra depressa, minutis pustulis lineari serie insignitis. Corpus infra rubro-piceum sericie aurato tectum. Femora valde incrassata; tibiis rubro-testaceis; tarsisque infra auri-comatis.*

Long. lin. 9¼; lat. lin. 2.

The above species was sent to me by Captain Roe from the vicinity of the Swan River settlement. There were also other species allied to the present, but they arrived in too mutilated a state to describe.

Conicolles.

Scolecobrotus Westwoodii. This species was described at p. 109 in the first volume of the Zoological Transactions, and is admirably figured at Plate XV. *n.* 5. It is remarkable for the joints of the antennæ, all excepting the first three appearing as if they were eaten by worms. I have lately obtained from Mr. Fortnum the other sex of this singular insect, and now briefly describe it. The antennæ are of a light coral-red colour, which may partly be occasioned by abrasion. The joints of the antennæ do not appear serrated as in the former sex, excepting under a high magnifying power, and even then it is scarcely perceptible. The spines at the apex of the elytra are wider apart than in the specimen previously described; in other respects the insects accord almost entirely. I have reason to think that both the above specimens are from the Swan River settlement, and am not aware that any others are to be found in our metropolitan, or even in the French collections.

Uracanthus, Hope. For the description of this genus, *vide* the details published at page 108 of the 'Zoological Transactions,' where only one species was described; two more are now added.

Uracanthus pallens. *Uracan. affinis præcedenti at multo minor. Cervino-brunneus thorace conico et albo-lineato; elytris pallidioribus apicibus bidentatis.*

Caput fronte forte canaliculata pubescenti-albida tectum. Thorax alba linea utrinque notatus, binisque tuberculis ad latera subarmatus, rugisque transversis constrictus. Elytra cervino-brunnea, sericea, triangulis in singulo colore saturatiore inquinatis. Corpus infra brunneo-sericeum, femoribus parum compressis.

Long. lin. 10; lat. lin. 2.

I had originally given the name of *sericeus* to this species, which, as it seems common to all that are at present known, I change it at present to *pallens*. It was received from Van Diemen's Land in 1839.

URACANTHUS MARGINELLUS. *Uracan. fusco-brunneus thorace albo-lineato, elytrisque brunneo marginatis.*

Totum corpus supra tomentosum, capite porrecto et inter oculos parum sub-canaliculato. Thorax rugis constrictus, tuberculo utrinque posito. Elytra albo-pubescentia marginibus brunneis apicibus abrupte truncatis, spinis parum prominentibus. Corpus infra concolor, femoribus compressis.

Long. lin. 9; lat. lin. 1⅓.

I received this insect from Captain Roe, of the Swan River. In form it approaches a singular genus named *Stephanops* by Mr. Shuckhard; it is however decidedly an *Uracanthus*, and there can be little doubt that *Stephanops Nasutus* of the above author belongs to my section of the cone-necked-shaped *Stenochoridæ*.

Section *Conicolles*, Hope.

Genus STRONGYLURUS, Hope.

Type of the Genus *Sten. scutellatus*, Hope.
Vide Zool. Trans., vol. i. p. 107.

Caput porrectum, oculis prominentibus. *Antennæ* undecim articulatæ: articulus 1^mus^ crassus antice latior quam ad basim; 2^do^ brevi, reliquis gradatim increscentibus, compressis. *Thorax* coniformis antice et transverse truncatus. *Elytra* thorace latiora, parallela apicibus rotundatis. *Femora* in utroque sexu subincrassata, et parum compressa.

Sp. 1. STRONGYLURUS SCUTELLATUS. *Strong. fuscus et tomentosus, thorace flavo-ochraceo colore utrinque lineato medio disci nigricante. Scutellum valde distinctum flavum. Elytra fusco-brunnea, fasciisque undulatis parum distinctis notata. Corpus infra sordide fuscum, abdomine rubro-piceo, pedibus concoloribus et tomentosis.*

Long. lin. 12⅓; lat. lin. 3.

The above insect I have received from various parts of New Holland; as it is accurately figured, I have not given very full generic details. I must remark, however, that in the sexes of this genus the antennæ vary very considerably, in one instance exceeding the length of the body, whilst in the other sex they are shorter than the elytra. These Longicorn beetles also vary much in size, which is a remark that appears to apply to most of the *Cerambycidæ* of New Holland. Can the long drought which sometimes prevails in this country be regarded as the cause of *dwarfishness*, which is certainly one of the striking features of the *Coleoptera* of Australia?

Sp. 2. STRONGYLURUS VARICORNIS. *Strong. testaceo-fuscus, antennis flavo-nigroque variegatis. Thorace tomentoso utrinque, dentibus atris armato. Scutellum distinctum et album. Elytra* *fusco-testacea fasciis binis undatis parum distinctis. Corpus infra concolor, pedibus tomentosis.*

Long. lin. 5⅓; lat. lin. 1½.

There are in our English collections two other species belonging to this genus; as however I have them not at hand, I must leave others to describe them.

Genus COPTOPTERUS, Hope.

Type of the Genus *Stenochorus Cretifer*, Hope.
Vide Zool. Trans., vol. i. p. 107.

Caput porrectum inter oculos canaliculatum. *Antennæ* compressæ, et fere ut in Strongyluro. *Thorax* obconico-truncatus, lateribus rotundatis. *Elytra* thorace latiora parallela; apicibus sub-oblique truncatis, seu abrupte sectis. *Femora* sub-incrassata et parum compressa; tibiis subincurvis.

COPTOPTERUS CRETIFER. *Copt. fusco-brunneus, capite albida macula inter oculos posita. Thorax nigro-cinereus variis maculis cretaceis notatus. Elytra brunnea maculis nigris aspersa, in quibusdam speciminibus maculæ conjunctæ fascias exhibent. Corpus infra fusco-rubrum maculisque variis albidis obsitum. Pedes rubro-picei et tomentosi.*

Long. lin. 10½; lat. lin. 3.

This insect appears to be abundant at Sydney: there are also other allied species undescribed, and from the vicinity of the Swan River.

Genus PIESARTHRIUS, Hope.

Type of the Genus *Stenochorus marginellus*.
Vide Zool. Trans., p. 112. Genus 12.

Caput exsertum. *Antennæ* valde compressæ, 11-articulatæ. *Thorax* fere tetragonus angulis anticis parum rotundatis. *Elytra* thorace paullo latiora parallela, interne spinosa, angulis externis rotundatis. *Femora* antica quatuor vix incrassata, posteriora minora; tibiis subincurvis.

Hab, In Nova Hollandia.

PIESARTHRIUS MARGINELLUS. *Piesar. flavo-fuscus antennis compressis, tomentosis et pallidis. Thorax niger, lateribus flavo-ochraceis. Scutellum distinctum et flavum. Elytra testaceo-flava marginibus interne et externe rubro-piceis. Corpus infra brunneo-piceum lateribus pectoris annulisque abdominis utrinque flavo-maculatis, pedibus pallidioribus.*

Long. lin. 10; lat. lin. 2½.

This insect I received from Captain Roe of the Swan River, and it is, I believe, unique in our London cabinets. I have seen a second species, but have not been able to obtain permission to describe it.

Seven species of Birds of Paradise, presented to the Society by the Duke of Northumberland, were exhibited at the Meeting.

A collection of Birds and Molluscous animals, from Messina, were also exhibited, these specimens having been presented to the Society by Madame Power, Corr. Memb.

Mr. Ogilby characterized a new species of Monkey, under the name of *Papio ochreatus*. "I saw this animal" (observed Mr. Ogilby) "in a travelling collection last June. It was of a uniform dull black colour on every part of the body, both above and below, except the arms and legs, from the paws to the elbows and knees, respectively, which were dark gray, as was likewise the space between the scrotum and the callosities; the scrotum itself was dirty flesh-colour; the face and ears naked and black; the naked part of the hands and feet brown, and there was a large naked patch, of the same colour, surrounding the callosities; but whether natural, or the effect of accident, I am unable to determine. The ears were rounded, and less pointed than in the Papios generally; the countenance resembled that of the Pig-tailed Baboon (*P. Nemestrina*), but the face was more attenuated; size that of the Pig-tail. I was unable to learn whence the individual here described had been obtained. It constitutes a very distinct species, and may be characterized as follows:—

"The Booted Baboon, Papio ochreatus: *P. supra subtusque niger, brachiis et cruribus canis.*"

A species of *Trionyx*, or, according to MM. Dumeril and Bibron, *Gymnopus*, was exhibited. This specimen had lived for some time in the Society's menagerie, having been sent from the Euphrates by Colonel Chesney.

The following description and observations relating to this animal were communicated by Mr. Martin:—

"Total length, from the tip of the muzzle to the end of the tail, two feet; width about one foot; head and neck, measuring to the anterior edge of the carapace, seven and three quarters inches: carapace slightly convex and oval, slightly truncated posteriorly; composed of nine costal plates, the ribs being eight in number; a double mesial furrow runs along the back, leaving a slightly convex elevation between them: between the first, and most anterior, of these plates and the second, are two depressions, each about half an inch in diameter, placed near the mesial line, and separated by a space less than a quarter of an inch in extent. The whole upper surface of the carapace, excepting at the margin, irregularly reticulate. The depressions between the costal plates are well marked. The length of the carapace is nine inches, and the breadth seven and three quarters inches; on the sides of the body the coriaceous membrane extends about two inches beyond the lateral margins of the carapace, the ribs themselves extending about one inch and a half beyond the carapace. Towards the hinder part of the body the membrane gradually increases in width, and posteriorly over the tail it had attained a width of nearly six inches: here the free portion of the membrane is about two and a half inches in width. The head is in the form of an elongated triangle; the snout is considerably produced and attenuated: the width of the head at the base is two inches and a quarter; the total length of the skull is three inches five lines; the space from the eye to the upper lip, beneath the nostrils, is eleven lines; the space between the orbits is five lines; on the vertex, above and between the orbits, the skull is smooth and convex. In both the fore and hind feet the first or front claw is the largest. The tail is rather short and thick; its length is about four inches and a half.

"When alive this animal was of an uniform mud colour, slightly tinted with olive-green.

"In many respects this animal agrees with the *Gymnopus Ægyptiacus* (*Trionyx Ægyptiacus*), as described by M. Bibron, but neither the head nor the margin of the carapace is spotted with yellowish white, as in that species; besides, the two nearly confluent depressions on the anterior part of the carapace are not alluded to in the account of *G. Ægyptiacus*; they are, however, very conspicuous in the animal in question. There are, it may be added, no pellucid scales, placed in a transverse direction, on the under surface of each elbow, nor are there any depressed convex tubercles, either anteriorly or posteriorly, on the cartilaginous expansion of the carapace, as are often, though not invariably, found in the *G. Ægyptiacus*.

"With respect to the *Gymnopus Euphraticus* (*Trionyx Euphraticus*), originally described by Olivier (*Voyage en Perse*, tom. iii. p. 453, tabl. 41.), the carapace is described as being broader behind than before, which, if reference be extended only to the osseous disc, is not the case in the present animal. As in that species, however, the circumference of the carapace is smooth, and the skin is folded at the elbow-joint above, but does not simulate scales. The circumstance of a mesial depression, or rather double channel, with a convex line between, down the vertebral column, is not noticed as characteristic of the *G. Euphraticus*, nor yet are the smooth anterior oval foveæ.

"Still, however, it is not improbable that the animal in question may be identical with that described by Olivier; but it remains to be seen whether his species be distinct from *G. Ægyptiacus*, a point which his short and imperfect account does not enable us to solve.

"The sternum of the specimen having been removed by the animal preserver, and lost, has prevented my noticing this part in the above description."

A skull of an adult Chimpanzee, recently purchased by the Society, was exhibited, and Professor Owen pointed out the distinguishing characters between this and the skull of the Orang, also on the table; he also called attention to certain points of agreement between this skull and that of the Hottentot.

July 14, 1840.

William Yarrell, Esq., Vice-President, in the Chair.

A letter from Sir Robert Heron, Bart., dated July 8, 1840, was read. It related to a young Kangaroo, which had crawled out of the pouch of the parent long before the proper time, and was consequently unable to return; its body was marked all over by the mother in her attempts to get it back into the pouch. In a second letter Sir R. Heron states that this young Kangaroo was quite naked, and unable to move. It was some hours before he could find the keeper, and when he arrived the little animal was scarcely alive. The keeper took it home, gave it milk, and by careful treatment it quite revived, and was restored to the pouch of the mother, where it has remained for five days, appears to be perfectly well, and frequently protrudes its nose. The mother never left it, and was evidently under great anxiety.

A species of Ibex, and a Mouflon, from Erzeroom, together with some other specimens from the same part of the world, presented by Messrs. Dickson and Ross, were exhibited.

Some specimens, displaying the different stages of the *Rana Paradoxa*, were also exhibited. These specimens were brought from Demerara by Capt. Warren, who presented them to the Society.

Mr. Yarrell exhibited the first ten numbers of Mr. Audubon's new royal 8vo edition of his 'Birds of America,' in which the plates are carefully reduced and coloured from the original large drawings.

Mr. Yarrell also exhibited a specimen of the Snow Bunting, in perfect summer plumage, and stated that the bird was given to him by his friend Thomas Wortham, Esq., on whose grounds, at Royston, in Hertfordshire, it was shot, on the 22nd of May, 1840.

Mr. Fraser exhibited and pointed out the characters of the following new species of birds from the collection of the Earl of Derby:

TURDUS GIGAS. *T. nigrescenti-olivaceus; subtus fuscescenti-cinereus; hôc colore apud gulam crissumque obscuriore, caudâ et capite fuliginosis; gutturis plumis strigâ obscurâ et oblongâ notatis; rostro, pedibusque flavis.*

Long. tot. 14 unc.; *rostri*, $1\frac{1}{8}$; *alæ*, $6\frac{1}{2}$; *caudæ*, $6\frac{1}{2}$; *tarsi*, $1\frac{1}{2}$.

Hab. S^{ta}. Fé de Bogota.

This bird may at once be distinguished from any other American species with which I am acquainted by its much greater size.

PSITTACUS CHALCOPTERUS. *P. nigricans, nitore submetallico; plumis capitis, cæruleo, et nec non-viridi lavatis; illis dorsi sub-fuli-*

ginosis, tinctura viridi; illis corporis subtus cœruleo suffusis; alarum tectricibus æneo-viridibus, hic et illic ochreo tinctis; primariis, uropygio, caudâque intensè cœruleis; tectricibus caudæ paululùm virescentibus, crisso rubro; plumis femorum gutturisque rubro variegatis; alis subtus virescenti-cœruleis, tectricibus inferioribus intensè cœruleis; rostro flavo.

Long. tot. $11\frac{1}{2}$ unc; *rostri*, 1; *alæ*, $8\frac{3}{8}$; *caudæ*, $3\frac{1}{2}$; *tarsi*, $\frac{1}{2}$.

Hab. S$^{\text{ta}}$. Fé de Bogota.

Very closely approximates to the *Psittacus purpureus*, Gmel., but may at once be distinguished by its beak being entirely yellow; the absence of the red spot in front of the eye; its blue rump; the feathers on the legs, throat and chest being variegated with red; the darker colour of the abdomen, and also in the colouring of the upper and under surfaces of the wings.

PICUS ELEGANS. *P. coccineus, fasciâ per genas excurrente, et abdomine, flavis; mento, guttureque nigro flavidoque variegatis; plumis pectoris et uropygii rubello, flavido, et nigro fasciatis; caudâ nigrâ, primariis fuscescenti-nigris, extus olivaceis.*

Fœm. *differt gutture, capiteque supernè nigris.*

Long. tot. 12 unc.; *rostri*, $1\frac{1}{2}$; *alæ*, $5\frac{3}{4}$; *caudæ*, $4\frac{1}{2}$; *tarsi*, $\frac{7}{8}$.

Hab. S$^{\text{ta}}$. Fé de Bogota.

Head, neck, back, wings, and moustache, blood-red; a stripe, commencing at the nostril, passing through the eye, and extending on to the ear-coverts, together with the abdomen, under surface of the tail, and wing-coverts, yellow; chin black, each feather having a narrow bar of yellow, which becomes more distinct on the throat and chest, which are tinged with red; the feathers of the rump and upper tail-coverts are similarly marked with those on the chest, but more obscurely; primaries olive; tail, beak and feet black.

The female only differs from the male in having the upper surface of the head and moustache black; all the colours are less brilliant.

This bird appears nearly related to *Colaptes campestris* (*Picus campestris*, Licht.).

The three species above described are from the collection of the Earl of Derby.

Mr. Fraser also exhibited some specimens of the true *Pteroglossus Azaræ* of Wagler and Vieillot, and pointed out the differences between that species and the bird figured by Mr. Gould, in his Monograph of the family of Toucans, under that name.

"This bird differs from the *Azaræ* of Gould, in having the broad dusky dash along the upper mandible (having seen about twenty specimens of this species, of all ages and sexes, I can safely say that it is not a sign of immaturity, or caused by decomposition, as Mr. Gould was led to suppose, but really a specific difference), the *very* broad black belt, and the *very* narrow band of scarlet across the abdomen, as may be seen by a comparison of the figure given by Gould in his Monograph, and the one by Vieillot in his *Galérie des Oiseaux*, tom. ii.

"The specimen now before me, of the *Azaræ* of Wagler, was brought from British Guiana by R. H. Schomburgk, Esq., Corr. Memb. Zool. Soc., and presented by him to this Society. In the Earl of Derby's collection there is a specimen of the bird figured by Gould, for which I propose the name of *Pteroglossus flavirostris*, from the uniform colouring of its beak. M. Natterer informs me the latter species is from Rio Janeiro."

Mr. Blyth exhibited a fine pair of horns of the *Rass* of Pamîr*, brought from that elevated table-land by Lieut. Wood, of Sir A. Burnes's party. Mr. Blyth also exhibited the horns of a new species of wild Sheep, from Little Thibet, whence the specimens had been brought by G. T. Vigne, Esq., to whom he was indebted for the loan of them.

[* See page 64.]

July 28, 1840.

Professor Owen in the Chair.

A letter from Capt. Christopher Smith, of H. M. Brig 'Star,' was read: it is dated July 20, 1840, and refers to two living Agoutis which that gentleman begged to present to the Society. The letter moreover states that he had collected a few specimens of Natural History, which he would take an early opportunity of forwarding for the Society's Museum.

Mr. Leadbeater exhibited an extensive collection of Birds, most of which were rare species from the various islands of the Indian Archipelago.

Mr. Cuming exhibited some specimens of Quadrupeds, which he had procured during his stay at Malacca; they consisted of two specimens of *Semnopithecus obscurus,* which species, Mr. Cuming states, is subject to great variation in its colouring, one specimen of *Felis marmorata,* and one of *Rhizomys Sinensis.*

Mr. Cuming's notes relating to the last-mentioned animal state that the specimen was a male, and before it was skinned afforded the following dimensions: length from the tip of the nose to the root of the tail, 15 inches; of tail, 6 inches; girth behind the shoulders, 8 inches. The animal lives on the roots of bamboos, under which it burrows; the eyes are very small, and of a black colour.

Mr. Blyth read his paper entitled "An Amended List of the Species of the genus *Ovis.*"

"The arrival of various spoils of different species of wild sheep," remarks the author, "since my memoir upon this genus of animals was read before the Society, enables me now to clear up several points which I formerly left as doubtful, as well as to include some additional species in the catalogue, and to indicate still more as probably distinct, and therefore desiderata to which the attention of travellers and others should be directed.

"1. *Ovis Polii,* nobis (the Pamîr Sheep). In the narrative of the celebrated Venetian traveller, Marco Polo, we read (in Marsden's edition, p. 142) that upon the elevated plain of Pamir, eastward of Bokhara, and which is 16,000 feet above the sea-level, 'wild animals are met with in great numbers, particularly sheep of a large size, having horns three, four, and even six palms in length. The shepherds form ladles and vessels of them for holding their victuals. They also construct fences for enclosing their cattle, and securing them against the wolves, with which they say the country is infested, and which likewise destroy many of the wild sheep or goats (*mou-*

toni v. becchi or 'boucs').' More recently, an animal called the *Rasse* was indicated, from report, in Sir Alexander Burnes's 'Travels in Bokhara,' ii. 208, and its horns have since been transmitted to the Royal Asiatic Society by Lieut. Wood, of Sir A. Burnes's party, through the medium of G. T. Vigne, Esq. In this magnificent specimen of a frontlet I recognize (though with some hesitation) the *Ovis sculptorum,* formerly described by me from a horn in the Museum of the Royal College of Surgeons; but as the characters of that specimen, as originally drawn up by me, have not hitherto been published; as its flexure, too, which suggested the appellation of *sculptorum,* would appear to form a less extended spiral than is probably normal, and the habitat also proves to be different from that anticipated,—namely, the Taurus, which I have still reason to suspect contains a large undescribed species of this genus,—I here propose to dedicate the present splendid animal to the illustrious Venetian traveller of the thirteenth century, by the name of *Ovis Polii.*

"As compared with the Rocky Mountain Sheep of North America, the *Rass* or *Roosh* of Pamir differs in having the horns considerably less massive, but more prolonged, approaching more in character to those of the domestic *O. Aries,* but differing again from the latter, not only in their very superior size, but in having their two front angles about equally developed. As in the Rocky Mountain species, and I believe also the *O. Aries* normally, the pair at first diverge backward, and then descend and gyre round at a parallel with the axis of the body, inclining, as they again spire backwards, more outward to the tip. The horns described were in their seventh year of growth, and measure 4 feet 8 inches in length, following the curvature, and 14¼ inches round at base, having the tips, which are continued round till they point obliquely backwards, 45 inches apart. The width of their upper plane is 3½ inches at base, 2¾ inches at the distance of one foot from the base, and 2½ inches at 2 feet distance from the base; the depth of the base inside is 5 inches, and distance apart of the pair, measured outside, where they gyre forward at a parallel, 21 inches. The years of growth are successively 15½, 10½, 13, 8, 5, 3, and the last (incomplete) 1, inches. The College of Surgeons' specimen, a single horn, was in its eighth year of growth, but measures only 4 feet 4 inches round the curvature; its depth towards the base is 6 inches, and greatest width, about the middle, 2¾ inches. The successive annual growths are 12½, 9, 8, 8, 7, 5, 3½, and the incipient eighth 1, inches. It is curved in a spiral involution, and scarcely outwards for three-fifths of a circle, when it gradually inclines more so to the tip, the horn describing one circle and about a third. When upon the head, it must accordingly have gyred considerably inward, instead of descending at a parallel with the other, as indeed is almost invariably the case with the domestic *O. Aries.* Both specimens are of a pale colour, and indented with rugged transverse striæ, in general half an inch apart. Of the animal nothing further is yet known. Considering, indeed, the differences of the two specimens, it is by no means improbable that they will yet prove to be of allied rather than of the same species, in which case my former name of *O. sculptorum* might be retained for that to which it was applied.

"2, 3, and 4. The museums of Western Europe do not, that I can learn, contain any portion of the Siberian Argali, *Ovis ammon* of Pallas, that might serve for comparison with the Rocky Mountain Sheep of North America, *O. montana* of Desmarest; but as the Kamtschatka Argali is described as a distinct species, *O. nivicola,* by M. Eschscholtz in his *Zoologischer Atlas,* (differing from the two preceding in its inferior size, and in wanting, it would appear, the pale disc surrounding the tail, so conspicuous in both the others,) the probability is thus enhanced, that the Siberian and Rocky Mountain species are not the same, however closely they may resemble. The descriptions of *O. Ammon* would seem to apply in every particular to the *O. montana,* though it is still probable that actual comparison of specimens would lead to the detection of some discrepancies, as generally, but not always, happens in like cases. I may notice, that while Mr. Drummond affirms that the horns of old rams of *O. montana* 'attain a size so enormous, and curve so much forwards and downwards, that they effectually prevent the animal from feeding on level ground*,' the same had previously been remarked by Strahlenberg of the Argalis of Siberia†, and no doubt is equally observable in the *Rass* of Pamîr. The finest specimen of a head of the Rocky Mountain animal, of seven heads of adult males examined, is in the collection of this Society, and gives the following admeasurements: horns 3 feet 5 inches over the front ridge, and $17\frac{1}{4}$ inches round at base, where the front angles are $4\frac{3}{4}$ inches apart. They number nine years of growth, which successively give 9, $7\frac{1}{2}$, $6\frac{1}{2}$, 5, $4\frac{1}{2}$, 4, $2\frac{1}{4}$, $1\frac{1}{4}$, and 1, inches. They are nearly equilaterally triangular, but bulge a little between the angles, having the inner or front angle obtusely prominent, the posterior double, or forming a second plane at a slight angle with the superior one, and the inferior angle (if such it can be called) much rounded off: the greatest depth of the horn is about 6 inches; from base of front angle to tip they measure 11 inches; and the tips apart 26 inches. They are everywhere strongly furrowed across, more particularly in front, the intervals between the grooves swelling out considerably; and they gradually become, as in all the rest of the genus, more compressed to the extremity.

"Of the *O. nivicola* of M. Eschscholtz, that naturalist writes: 'The specimen described is a male in winter garb, measuring 5 feet (French?) in total length, and 2 feet 5 inches high. Its outer coat is of a yellowish grey colour, brighter on the under parts, and inclining to straw-yellow on the head and neck; the markings in front of the limbs are of a rust-colour: horns equilaterally triangular, 3 inches thick at base, and gyring outwards to form one complete spiral circle, 10 inches in diameter, and having their points directed outwards and forwards; the upper and posterior portions of the horn are level, and marked with deep annual indentations, which successively measure 7, 6, 5, 4, 3, 2, 2, and 1½, inches, making eight years of total growth; besides which, there are numerous minor indentations or ordinary cross-striæ, but no protuberant intervals.' From the figure they would seem not to bulge between the angles, as is usual, though not invariably the case, with the Rocky Mountain species; as also to be somewhat more tensely spiral, as if pulled a little outward. The appearance both described and figured at the base of the fore-limbs externally, I suspect to be nothing more than the *axilla*, that had been twisted outwards in the mounting of the specimen. M. Eschscholtz describes this animal to be very numerous on the mountains of Kamtschatka, residing upon the snow-clad heights in summer, and descending to the lower regions in winter. A notice of its chamois-like agility occurs in the narrative of Kotzebue's Voyage from 1823 to 1826.

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* *Fauna Americana-borealis.*

† Description of the northern parts of Europe and Asia.—Eng. Transl., p. 332.

"In the 18th volume of the 'Asiatic Researches,' part ii., Mr. Hodgson, of Nepâl, gives a figure of a horned female of the Nahoor Sheep, and also of the skull and horns of a young ram, which he erroneously refers to that species, as since described by him. He also mentions having once possessed a pair of the horns, which he 'could only lift from the ground with a considerable effort'; but it is necessary to observe, that the description which he gives in the volume adverted to, of the mutilated skin of a young wild ram, procured in mid winter, refers evidently to the Nahoor, and not to the species with horns having a triangular section, which is the subject of the present notice. According to Mr. Hodgson, the horns of this young specimen are 'equilaterally triangular,' as the figure likewise represents; whereas the Rocky Mountain species would at the same age have much compressed horns, far from attaining to an equilateral triangle. Should a true species be here indicated, as is not improbable, distinct from *O. Ammon*, I propose that it be dedicated to that assiduous investigator of Nepalese zoology, and be accordingly termed *O. Hodgsonii.*

"5. *O. Californiana*, Douglas. The Jesuit missionary Venegos observed in California 'a kind of wild sheep, the size of a calf of one or two years old, with extraordinarily thick horns, resembling those of a common ram, *and tail shorter than that of a stag*,' whence it would appear that the Rocky Mountain species, or a near ally, is here alluded to. Mr. Douglas describes the Californian Argali to have a tail 18 inches long (*vide* Zoological Journal, iv. 332). Its length, he observes, from nose to base of tail, is 5 feet 10 inches; height of the shoulder 2 feet 8 inches; girth behind the shoulders 6 feet: head 16 inches long, 7 [to] between the eyes, and 9 [to] between the horns: ears erect, 1½ inch [4½ inches ?] long, obtuse. The horns deposited in the museum of this Society bear a general resemblance to those of the Rocky Mountain species, but are smoother, and form a much more open spiral: the terminal third is very much compressed; the medial intermediate, and the basal very thick and triangular: they were only in their fifth year of growth, and would doubtless have attained to much greater dimensions. Their length is 32 inches, measured over the front ridge, and girth at base 14½ inches, having a span of 12½ inches from base to tip inside: from the tip to first annual depression they measure 12½ inches, and then successively 6¼, 5½, 4¾, and the incipient fifth year's growth 2 inches. They do not bulge between the angles, which are rather obtuse, and, as usual, are transversely striated. Approximate distance of the tips apart 33 inches.

"'From the testimony of the Indian tribes about the Great Falls of the Columbia River,' writes Mr. Douglas, 'this species appears to inhabit the subalpine regions of Mounts Wood, St. Helen's, and Vancouver, but is more numerous in the mountainous districts of the interior of California. The only good skin that ever came under my observation was in lat. 46° 14′ 55″, and long. 121° 17′ 0″.' Forbes, in his recent work on California, appears to allude to it by the name of *Berindo*, which in Mexico is applied to the *Antilocapra furcifera*. He quotes, however, the description by Venegos, including the statement that it has a short tail, and remarks, that 'they still abound in the plains at the foot of the mountains, and are always found in large herds.' It does not, from the context, appear to me that the prong-horned animal is intended.

"From these we might proceed, through the domestic *Aries*, to the species generally typified by the Moufflon of Corsica; but I shall interpolate a small group from the Himalaya, and apparently Caucasus, distinguished by having smooth and sub-cylindrical horns, that form a bold arc outwards at nearly right angles with the axis of the body, and have the tip turned backward. Such is

"6. *O. Nahoor*, Hodgson; the *Nahoor* or *Nervati*, and *Snà* (not *Shà*) of Thibet. Size of the larger breeds of tame sheep, with pale horns, and general colour dull brownish grey in old animals, with the ordinary dark markings on the face, breast, and limbs, more or less developed. Younger specimens, more particularly, have their coat, when renovated, tipped with a light fulvous tint, deeper along the middle of the back; the tail is bushy, and conspicuously white, its medial portion generally dark. Length, as given by Mr. Hodgson, 4 feet from nose to base of tail, and height of the back 32 inches. A female was 3 feet 4 inches from nose to tail, and stood 29 inches high at the shoulder. From nose to between the horns a male measured 8½ inches; the ears 4½ inches; and tail 4 inches, or 7 inches to the end of the hair. A pair of horns in the museum of this Society, which are far from having attained their full growth, measure 12 inches in circumference at base, and 20½ inches long over the curvature, having their tips 27 inches asunder: their successive annual growths were respectively 6½, 4, 3, 2¾, 2½, and 1¾, inches. Mr. Hodgson mentions a pair that were each 32 inches long. Those of a very old female in the British Museum have precisely the same curvature as in the male, only that the tips do not turn so much backwards; they are, however, much compressed, and measure 9¾ inches long, 4½ inches round, with the tips 14 inches apart. Another female, in the collection of this Society, is entirely destitute of horns. The latter, and a young male which I formerly examined at Mr. Leadbeater's, accorded perfectly with the description of Mr. Hodgson, having pale slaty-blue hairs, deeper on the back, and tipped with a rufous tint, more particularly on the back, which caused the animal to appear of a pale fulvous or isabelline hue. An old male in the museum of the Linnean Society*, and the aged female in the British Museum, together with another skin which I have seen, have not only no trace of this colour in their present state of *pelage*, but I doubt whether they showed much of it when their coat was new: the colour of all three is a dingy grey-brown, not easy to express in words.

"The horns of the Nahoor differ but little in flexure from those of the next species, but may nevertheless be distinguished by many differences, in general strongly pronounced: as their superior size; the greater proportional thickness of the basal half, beyond which they narrow somewhat abruptly; the flatness of their dorsal aspect, with a much more acutely raised ridge along its middle; and by the comparative sharpness of all the angles, together with the existence, generally, of some traces of cross striæ, more particularly towards their compressed tips; whereas the horns of the Burrhel Sheep are much less angular, of a deep rufous-brown colour, and quite smooth. Those of the female Nahoor described were entirely destitute of cross furrows, but all have the marks of annual growth conspicuously indented.

"This species, according to Mr. Hodgson, 'inhabits the Kâchar region of Nepâl, northward of the habitat of the Jharal Goat, amid the glaciers of the Himalaya, and both on the Indian and Thibetan sides of that range.' Mr. Vigne informs me that it is plentiful in Great, but not in Little Thibet. I suspect that it is never found at so considerable an altitude as the next species.

"7. *O. Burrhel*, nobis. Smaller and more robust than the Nahoor, with shorter ears, and very dark horns; having no white upon it; and general colour dark and rich chestnut-brown, with the ordinary black markings upon the face, chest, and front of the limbs very distinct; tail apparently minute.

"This handsome species bears pretty much the same relationship in appearance to the Nahoor, which the English breed of South Down domestic sheep bears to the Leicester breed, except that there is not so much difference in size. Length of the unique stuffed specimen in the museum of this Society, from nose to tail, 54 inches, but a foot less would probably give the dimensions of the recent animal, as the skin is evidently much stretched; height of the back 32 inches, from which also about 2 inches might be deducted; from muzzle to base of horn 8 inches, and ears 3½ inches. The horns measure 20 inches over the uppermost ridge, and 10 round at base, having their tips 25 inches apart; but those of a specimen noticed in the 'Bengal Sporting Magazine' (for 1839, p. 295) were 25½ inches long, with a girth of 11½ inches; and a horn of this same species, which I examined at Mr. Leadbeater's, had attained a length of 2 feet, and circumference of 11 inches at base, having a span of 14 inches from base to tip inside, and numbering at least ten indications of annual growth, and probably at least one more towards the tip, which could not be made out with certainty. The respective lengths of these were successively 10½, 2½, 2¼, 1¾, 1¼, 1½, 1, 1, ¾, and the basal ½, inches. The coat of the Burrhel Sheep is rather long, and harsher than that of the Nahoor, having less wool concealed beneath it than in the Moufflon and Rocky Mountain species. The female is undescribed, and I have met with no other specimens than are here mentioned.

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* Mistaken for *Ovis Ammon* in the *Fauna Americana-borealis*, vol. i. p. 274, and for a second specimen of *O. Burrhel* in Part 6, p. 79, for July 10th, 1838, of these 'Proceedings.'

"In the description of the preceding species, the principal differences are stated which distinguish the horns of that animal from those of the present one. The Burrhel's horns have all the ridges rounded off, though still sufficiently distinct, and the marks of annual growth are deeply indented, the horn bulging a little between them. Upon a front view, the backward curvature of the tips disappears altogether, and the animal has an imposing appearance, finer than that of the Nahoor. Its colour is much darker than that of the Moufflon.

"The Burrhel would seem to inhabit a much loftier region of the Himalaya than the Nahoor, where it bounds lightly over the encrusted snow, at an altitude where its human pursuers find it difficult to breathe. It has the bleat of the domestic species, as indeed they all have, and is very shy and difficult of approach. Flocks of from ten to twenty have been observed, conducted by an old male, which make for the snowy peaks upon alarm, while their leader scrambles up some crag to reconnoitre, and if shot at and missed, bounds off a few paces further, and again stops to gaze. They pasture in the deep hollows and grassy glens. The Society's specimen was met with near the Boorendo Pass, at an altitude estimated to have been from 15,000 to 17,000 feet. The notice in the 'Bengal Sporting Magazine' refers to the same locality; and another notice most probably alludes to this species, in Lieut. Hutton's 'Journal of a Trip through Kunawar,' published in the 'Journal of the Bengal Asiatic Society' for 1839, p. 994. Finally, Mr. Leadbeater informed me that the horn described as having been in his possession was brought from Nepâl, together with specimens of the Nahoor and Musk, and the skull and horns of a Himalaya Ibex, which I also examined.

"8. *O. cylindricornis*, nobis (the Caucasian Argali). Col. Hamilton Smith notices this animal in his description of *O. Ammon* (published in Griffiths's English Edition of the 'Règne Animal,' vol. iv. p. 317), and writes me word that an individual died on landing it at Toulon, whither it had been brought by a French consul, who did not preserve the skull or skin, but set up the horns, which were quite fresh when he saw them. 'Each horn was about 3 feet long, arcuated, round, as thick at the top as at the base, of a brown colour, nearly smooth, and about 15 inches in circumference. They were so heavy and unmanageable,' writes Col. Smith, 'that I could not lift both together from the ground, nor place them in that kind of juxta-position which would have given me an idea of their appearance on the head. I could not well determine which was the right or which the left horn. Circumstances prevented my taking a second view of them, as they arrived only the day before I left Paris, and they are now doubtless in the museum of that capital.' In my former paper I alluded to this animal as probably distinct, and apparently allied to the Burrhel: the foregoing details confirm me in that opinion, and remove all doubt of its distinctness, as there is no other species to which they will at all apply. The sketch which Col. Smith has favoured me with represents a sheep-horn, apparently of the same general form as those of the Burrhel and Nahoor; but the dimensions specified are very superior to those attained in the instance of either of the two Himalayan species adverted to, and I can only suppose that the (reverted ?) tips had been broken off, and the truncated extremity worn smooth. The wild sheep of Caucasus and Taurus are at present little known, nor does any notice of this genus occur in the catalogue of Caucasian animals published by M. Ménétries; though it is nevertheless certain, from the vague incidental notices of various travellers, that some, and not unlikely several, exist. At Azaz, by the foot of Taurus, Mr. Ainsworth mentions having seen an animal which he designates *Ovis Ammon* (*vide* 'Travels in Assyria, Babylonia, and Chaldea,' p. 42).

"9. *O. Gmelinii*, nobis (the Armenian Sheep). This species belongs to the Moufflon group, but is yet very different from the Moufflon Sheep of Corsica. It is described and rudely figured in the *Reise durch Russland* (vol. iii. p. 486, and Tab. LV.) of the younger Gmelin; and the skull and horns, forwarded by that naturalist to St. Petersburgh, have been figured and described by Pallas in his *Spicilegia* (Fasc. xii. p. 15, and Tab. V. fig. 1.). Messrs. Brandt and Ratzeburg erroneously identified it, at the suggestion of M. Lichtenstein, with the wild Cyprian species, the horns of which have a nearly similar flexure. Fine specimens of the male, female, and young, lately received by this Society from Erzeroom, enable me to give the following description:

"Size of an ordinary tame sheep, with a remarkably short coat, of a lively chestnut-fulvous colour, deepest upon the back; the limbs and under parts whitish, with few traces of dark markings, except a finely contrasting black line of more lengthened hair down the front of the neck of the male only, widening to a large patch on the breast; and in both sexes a strip of somewhat lengthened mixed black and white hairs above the mid joint of the fore-limbs anteriorly, which corresponds to the tuft of *O. Tragelaphus*; tail small, and very slender: horns of the male subtrigonal, compressed, and very deep, with strongly marked angles and cross-striæ, diverging backwards, with a slight arcuation to near the tips, which incline inwards. As regards the flexure alone, but not the character of the horn, which is allied to that of the Common Ram, this handsome species links the Moufflon group with the Nahoor and Burrhel group.

"Length nearly 5 feet from nose to tail; the tail 4 inches; from nose to base of horn 8 inches, and ears $3\frac{1}{2}$ inches. Horns (about full-grown, or nearly so,) 20 inches over the curvature, 10 round at base, 4 deep at base inside, their widest portion 2 feet apart, and tips 21 inches, with a span of 13½ inches from base to tip inside; their colour pale. Around the eye and muzzle this species is whitish; the chaffron and front of the limbs are more or less tinged with dusky, and its coat is rather harsh, and fades considerably in brightness before it is shed. Female generally similar, but smaller, with no black down the front of the neck, and in the observed instances hornless. The lengthened black hair of the male is only 1 inch long, and that composing the tuft on the fore-limbs is so disposed that the latter is white in the centre, flanked with blackish.

"According to M. Gmelin, this species is found only on the highest mountains of Persia. Its rutting season takes place in September, and lasts a month; and the female yeans in March, producing two or three lambs at a time: the males, he informs us, are very quarrelsome amongst each other, insomuch that he had been at one place where the ground was completely strewed with horns that had been knocked off in their contests; so that if any variation in the flexure of these horns had been observable, this industrious naturalist would doubtless have remarked it. Sir John McNeill informed me that 'it appears to be the common species of the mountains of Armenia; occurring likewise on the north-west of Persia;' but the wild sheep of the central parts of Persia is evidently distinct, 'having horns much more resembling those of the domestic Ram, being spiral, and completing more than one spiral circle. I think I am not mistaken in supposing,' continues Sir John, 'that I have also had females of this species brought to me by the huntsmen with small horns, resembling those of the ewes of some of our domestic sheep; but, on reflection, I find that I cannot assert this positively, though I retain the general impression.' It is highly probable that a wild type of *O. Aries* is here adverted to, which would thus inhabit the same ranges of mountains as the wild common Goat (*C. Ægagrus*); and with respect to the circumstance of horns in the female sex, I may here remark that this character is very apt to be inconstant throughout the present group. It has already been noticed in the instance of *O. Nahoor*; and the elder Gmelin states that the females of *O. Ammon* are sometimes hornless, while those of the Corsican *O. Musimon* are generally so. The same likewise happens in different species of wild Goats, in the Goral of India, and in the prong-horned animal of North America; and even in the Gazelles, and other ovine-nosed species of what are commonly confused together under the name of *Antelope*, there have been instances of hornless males as well as females. A male Springbok of this description, as I am informed by Col. Hamilton Smith, was long in the possession of the Empress Josephine; and the specimen of *Ixalus Probaton*, Ogilby, in the museum of this Society, doubtless affords another example of the same phenomenon.

"10. *O. Vignei*, nobis: the *Shà* (not *Snà*) of Little Thibet, and *Koch* of the Sulimani range between India and Khorassan. This fine species is closely allied to the Corsican Moufflon, but is much larger, with proportionally longer limbs, and a conspicuous fringe of lengthened blackish hair down the front of the neck, and not lying close, as in the Moufflon. Its size, I am informed by Mr. Vigne, is that of a large Fallow Deer; and from the general appearance of these animals, their length of leg, and swiftness on the mountains, 'they reminded me,' remarks that gentleman, 'of Deer rather than Sheep.'

"The general colour of this animal, to judge from an elaborately finished painting, taken from a living individual in its native country by Mr. Vigne, to whom we are indebted for all we know concerning the species, is a rufous brown, apparently not so deep as in the Moufflon; the face livid, or devoid of the rufous tinge of the body, and not terminated by a white muzzle, as in the Moufflon Sheep: the belly is white, separated by a black lateral band; and the limbs are brown, not mottled, as in the Moufflon, but with a whitish ring immediately above each hoof, then a dark ring, and above this a little white posteriorly, as in the Nylghau. The fringe in front of the neck is doubtless peculiar to the male, and the hairs of it would appear to be 4 or 5 inches long, and hang loosely. Tail about 6 inches long, and slender, apparently resembling that of the Armenian species rather than the Moufflon's.

"A full-grown pair of horns measure 32½ inches over the curvature, and 11 inches round at base; their widest portion apart, measured outside, is 2 feet, the tips converging to 8 inches, and span from base to tip also 8 inches: they are subtriangular, much compressed laterally, the anterior surface 2¾ inches broad at base, with its side-angles about equally developed, and the posterior part of the section tapers rather suddenly to a somewhat acute angle; eight years of growth are very perceptible, which successively give 12, 7, 4, 3, 3, 1½, 1½, and ½, inches; they bear considerable resemblance to those of the Moufflon Sheep, but differ in being very much larger, and in the circumstance of the outer front-angle being as much developed as the inner one; and they have not the slightest tendency to spire, but, describing three-fourths of a circle, and originally diverging as in a common Ram, they point towards the back of the neck, somewhat as in *O. Tragelaphus*. Another and younger specimen, however, has a decided spiral flexure outward, more especially towards the tip, and has also the outer angle much less developed than in the corresponding terminal portion of the former. This pair had grown to 11 inches long, with the tips 14½ inches apart; only one year's growth, and that appparently incomplete, is however exhibited, and the curvature is likewise less than in the older specimen. The portion of skull attached is also so much smaller, that I think it prudent to hesitate in identifying it as specifically the same. The posterior margins of the orbits are but 4½ inches apart, whereas in the other they are 5½ inches. There are no materials for extending the comparison, but a few more dimensions may be given of the smaller one. The greatest width of this skull, at the posterior portion of the *zygoma*, is 5 inches, and the orbits are 3¼ inches distant where most approximated: the series of 5 developed molars occupied $2\frac{3}{4}$ inches; width of second true molars apart, posteriorly and externally, $2\frac{1}{4}$ inches; of anterior false molars, measured outside and before, $1\frac{1}{8}$ inch; greatest width of palate $1\frac{3}{4}$ inch, and from front of first false molar to anterior portion of occipital *foramen*, $5\frac{3}{4}$ inches. Mr. Vigne, indeed, assures me that the adult has only five grinders on each side of both jaws, as in the Chirew, which, if normal, would make an important distinction, as the smaller specimen would undoubtedly have developed a third true molar, and possesses three false ones; whereas it is in one of the latter that the Chirew is deficient. I am inclined, however, to regard the two specimens as belonging to the same species, since I have observed analogous differences in the mere flexure of the horn in different Corsican Moufflons; but it was at all events proper to indicate the disparity.

"'Vast numbers of this species,' relates Mr. Vigne, 'are driven down by the snow in winter to the branches of the Indus, near Astor, at the southern extremity of Little Thibet, where the river breaks through the chain of the Himalaya. I once saw a young one, apparently of this species, in Persia, but took no memorandum of it at the time; it was dirty and draggled, but, I think, was covered with short wool.' I have great pleasure in dedicating this species to that gentleman.

"11. *O. Musimon*, Linnæus: the Moufflon Sheep of Corsica and Sardinia, but not, there is reason to suspect, of the Levantine countries. It is unnecessary to give a detailed description of this beautiful little species, though I may mention that the fine living male in the Gardens measures 39 inches from nose to tail, the tail 5 inches; from nose to base of horn 7 inches; ears 4 inches; neck, from posterior base of horn to the abrupt angle of its insertion, 8 inches, and thence to base of tail 21 inches; height at the shoulder $2\frac{1}{4}$ feet. The horns of this individual are remarkable for not spiring in the least degree, whence they point towards the back of the neck: they measure 21 inches over their curvature, and $8\frac{1}{4}$ inches round at base, being in their fifth year of growth; their widest portion apart is 15 inches, and at the tips 6 inches; but another pair, upon the stuffed specimen in the museum, which show the more usual slight spirature, are 26 inches long, having the widest portion 14 inches apart, and the tips as much as 12 inches: this pair shows seven years of growth, and their development was evidently completed, though they are only 7 inches in girth at base. The female has seldom any horns, which, when they exist, are ordinarily about 2 inches long.

"The character of the horn of the Moufflon is nearly the same as that of the domestic Ram, only that it is never so much prolonged, nor indeed to more than two-thirds of a circle: the inner front edge is acute to near the base, where the outer one approaches to an equality with it; the first half being thus unequally triangular, and the remainder much compressed, with strongly marked *rugæ*, and having the inner surface of the horn concave. It has always appeared to me, however, that the specifical distinctness of the Moufflon is very obvious, and I doubt whether it has contributed at all to the origin of any tame race. That it interbreeds freely with the latter, under circumstances of restraint, is well known; but we have no information of hybrids, or *Umbri*, as they are called, being ever raised from wild Moufflons, though the flocks of the latter will occasionally graze in the same pasture with domestic sheep, and all but mingle among them. The male of this animal is denominated in Corsica *Mufro*, and the female *Mufra*, from which Buffon, as is well known, formed the word *Moufflon*: and in Sardinia the male is called *Murvoni*, and the female *Murva*, though it is not unusual to hear the peasants style both indiscriminately *Mufion*, which (as Mr. Smyth remarks in his description of that island,) is a palpable corruption of the Greek *Ophion*. It is sometimes stated, but I do not know upon what authority, that a few of these animals are still found upon the mountains of Murcia.

"12. The Cyprian Moufflon, figured and described by Messrs. Brandt and Ratzeburg from a specimen in the Berlin Museum, and contrasted by them with M. F. Cuvier's figure of the Corsican animal, is probably a distinct species, intermediate to *O. Musimon* and *O. Gmelinii*: its horns have more the curvature of those of the latter species, but are not so robust, and curve round gradually backward from the base, instead of at first diverging straightly, as in *O. Gmelinii*; but the colour of the coat would appear to resemble that of the Corsican Moufflon, only without the rufous cast, and the specimen figured wants also the saddle-like triangular white patch, which is seldom absent in the Moufflon of Sardinia and Corsica. The *Tragelaphus* of Belon, it is true, observed by that author in Candia and in Turkey, is described by him to have 'horns similar to those of Goats, but sometimes gyrated like those of a Ram'; yet the fact of a nearly similar flexure of horn to that represented by Messrs. Brandt and Ratzeburg, proving to be of normal occurrence in the allied Armenian wild Sheep, confers additional probability on the supposition that the Berlin specimen of the Cyprian Moufflon has also normally curved horns, which alone would go far to establish its claim to rank as a species, in which case it might bear the appellation of *O. Ophion*.

"13. *O.* ——: *Ixalus Probaton*, Ogilby. I stated in my former paper an opinion, to which I am still disposed to adhere, that this animal is no other than a genuine sheep, but specifically distinct from any at present known: the specimen had long lived in captivity, as is obvious from the manner in which its hoofs had grown out; but whereas I formerly sought to account for its absence of horns, by ascribing this to probable castration at an early age, I am now inclined to consider that this abnormity—for such there is every reason to suppose it—was individually congenital, as in other rare cases before alluded to. The Armenian wild Sheep approaches more nearly to this species than any other as yet discovered; so much so, that before actually comparing them I thought that they would prove to be the same; but they are nevertheless distinct, as is particularly shown by the longer and less slender tail of the present animal, and the very different texture of its coat: the absence of dark markings on its face and limbs may prove to be an individual peculiarity. The specimen is of the size of a large tame Sheep, and entirely of a chestnut fulvous colour, dull white beneath and within the limbs, as also on the lips, chin, lower part of the cheeks, and at the tip of the tail. From nose to base of tail it measures about 50 inches,—the tail half a foot, and height of the back 2½ feet. From nose to rudiment of horn 9 inches, and ears 4 inches: the vestiges of horns, which exactly resemble those found upon many breeds of tame Sheep, are 2 inches apart. Upon the minutest examination of the specimen, I can perceive no character whatever to separate it from the genuine Sheep, nor any distinction more remarkable than the trivial circumstance of its chaffron not being bombed, as usual, which however is equally the case with *O. Tragelaphus*. I have been favoured, however, by Col. Hamilton Smith with a drawing of an animal observed by himself on the banks of the Rio St. Juan in Venezuela, which appears to accord so nearly with *Ixalus Probaton*, except in the particular of bearing horns similar to those of the Rocky Mountain Goat, that its absolute identity is probable, in which case it would be curious that a species so very nearly allied to the genus *Ovis* should yet differ from it so considerably in the character specified. The South American animal adverted to is the *Aploceros Mazama* of Col. Smith, and is probably congenerous with the *Pudu* of the Chilian Andes mentioned by Molina, (the existence of which would appear to have been lately re-ascertained by M. Gay,) and also with the fossil *Antilope Mariquensis* of Dr. Lund: there would indeed appear to be other living species of this type, more or less distinctly indicated by different authors.

"14. *O. Aries*, Linnæus: the Domestic Sheep. Assuming that different species have commingled to produce this animal, as appears to be very evident in the instance of the Dog, it is still remarkable that we have certainly not yet discovered the principal wild type, or indeed any species with so long a tail as in many of the domestic breeds, which I cannot doubt existed also in their aboriginal progenitors: nothing analogous is observable among the endlessly diversified races of the domestic Goat, which all appear to have been derived exclusively from the Caucasian *C. Ægagrus*; and as in my former paper I suggested the probability that a wild Sheep more nearly resembling the domestic races than any hitherto discovered would yet occur somewhere in the vicinity of the Caucasus, it now appears that such an animal does exist in central Persia, as noticed in my description of *O. Gmelinii*: nor should it be forgotten that Hector Boëtius mentions a wild breed in the island of St. Kilda, larger than the biggest Goat, with tail hanging to the ground, and horns longer and as bulky as those of an Ox*. Pennant remarks upon this subject, that such an animal is figured on a bas-relief, taken out of the wall of Antoninus, near Glasgow.

"Of all the wild species of true *Ovis* that have been here described, the Rass of Pamîr approaches nearest to *O. Aries* in the character of its horns, though differing in one particular, besides size, that has been pointed out; namely, that the two front angles are about equally developed; whereas in *O. Aries*, as in the Moufflon, the inner angle is more acute to near the base. Some experience in the deduction of the specific characters of sheep-horns enables me to state with confidence, that the normal character of the long-tailed domestic breeds of Europe, and also of most other breeds, is intermediate to that of the Rass and that of the Moufflon, combining the flexure and the prolongation of the former with the section of the latter, but becoming proportionally broader at the base than in either; more as in the Argalis of Siberia, Kamtschatka, and North America. That *O. Aries* is totally distinct from all, I have been long perfectly satisfied, and examination of the Rass in particular has strongly confirmed me in this opinion. I think it likely, however, that more than one wild species have commingled to form the numerous domestic races, though certainly not any that have been described in this paper. It is not very long since the question was habitually discussed, whether the tame Sheep had descended from the Argali of Siberia or the Moufflon of Corsica? and now that so many more decidedly distinct wild species have been added to the catalogue of this genus, it is probable that we are still very far from having ascertained the complete existing number, but that several more yet remain to be discovered upon the lofty table-lands and snowy mountains of middle Asia, from the Caucasus and Taurus to the Altai, and among them, it is very probable, some much more nearly allied to the domestic races than any at present known.

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* Two *crania* of sheep, apparently male and female, from the Irish peat, in the possession of the Earl of Enniskillen, and exhibited some time ago at a meeting of the Geological Society, are probably of this race.

" The whole of the foregoing animals appertain to my subgeneric group *Ovis*, as distinguished from *Ammotragus*, which latter is characterized by the absence of suborbital sinuses, like the Goats, but differs from the latter by possessing interdigital *fossæ*, as in other Sheep. This difference between the Goats and Sheep appears to have been first noticed by Pallas, and has since been descanted upon by Prof. Géné in vol. xxxvii. of the *Memorie della Reale Academia delle Scienze di Torino*. The fact of such a diversity in genera so nearly allied in habitat as the Goats and Sheep, renders the problem of the utility of the structure in question somewhat difficult of solution. The species upon which I found the subgenus *Ammotragus*, has decidedly an Ovine, rather than a Caprine aspect, when viewed alive: the male emits no stench, as in the Goats; the bleat is precisely that of *Ovis*, and the animal butts like a Ram, and not like a Goat. Unlike the other species of admitted wild Sheep, as well as the long-horned or true wild Goats, it has a concave chaffron, and no markings on the face and limbs: its tail is rather long, which is the case in no species of *Capra*, and is also remarkable for being tufted at the extremity. The indigenous habitat, North Africa, is a further peculiarity in the genus in which it is here placed, though two species of wild Goats respectively inhabit Upper Egypt and the snowy heights of Abyssinia.

" 15. *O. Tragelaphus*, Pallas: the African Goat-Sheep. This animal appears to vary considerably in size, some exceeding a Fallow

Deer in stature, while others are much smaller. It has no beard on the chin, like the true Goats, but is remarkable for the quantity of long hanging hair in front of the neck, and on the upper part of the fore-limbs, the former attaining in fine males to about a foot in length, and the latter to 9 inches; there is also some lengthened hair at the setting on of the head, and a dense nuchal mane, the hairs of which are 3 inches long, continued over the withers till lost about the middle of the back. General colour yellow-brown. Horns moderately stout, turning outwards, backwards, and so inwards, with the tips inclining towards each other.

"The splendid male in the British Museum measures 5 feet from nose to tail, and tail 9 inches, or with its terminal tuft of hair 13 inches; height of the back 3½ feet, but the living animal would not have stood so high by several inches; from muzzle to base of horn 11 inches, and ears 5 inches. The finest pair of horns which I have seen are in the same collection, and measure 25 inches over the curvature, 10½ round at base, with an antero-posterior diameter of 2½ inches inside; they diverge to 23 inches apart, measuring outside, at a distance of 6 inches from the tips, which latter return to 15 inches asunder; their span from base to tip inside is 13 inches; at base they are closely approximated, but not quite in contact. General form subquadrangular for nearly a foot, then gradually more compressed to the end, and having a very deep longitudinal furrow for the greater portion of their length outside, above which the horn bulges: there is a mark of annual growth at 1¼ inch from the base, another 1½ inch further, and a third after an interval of 3 inches; but the rest are too indistinct to be made out with certainty among the wrinkles of the horn. A large pair of female horns were 16 inches long; 7½ round at base; their widest portion apart, near the tips, 19 inches; and the tips 17¼ inches: their surface is marked with broad transverse indentations, which in the males ordinarily become more or less effaced with age. The female of this species is a third smaller than the other sex; and a lamb in the collection of this Society is extremely kid-like, with the spinal mane upon the neck and shoulders very conspicuous, but no lengthened hair on the fore-neck and limbs; in the half-grown male, the latter especially is still not much developed.

"This species is well known as the *Aoudad* of the Moors, and the *Kebsh* of the Egyptians; it is also, according to Rüppell, the *Tedal* of the inhabitants of Nubia, which is doubtless the same as *Teytal*, applied by Burckhardt to the wild Goat of that region, in addition to the word *Beden*, which (in common with Rüppell and others) he also assigns to the latter. Mr. Wilkinson, however, confirms Burckhardt, by informing us that the Goat referred to is called in Arabic *Beddan*, or *Taytal*, the former appellation referring to the male only. This author adds, that the present species 'is found in the eastern desert, principally in the ranges of primitive mountains, which, commencing about lat. 28° 40′, extend thence into Ethiopia and Abyssinia.' According to M. Rüppell, 'it is found in all North Africa above 18°, in small families, and always upon the rocky hills;' frequenting the steepest and most inaccessible crags amid the woods and forests of the Atlas, and descending only to drink. It is a wonderfully agile leaper, even more so than the wild Sheep and Goats generally, and is remarkable for always browsing, in preference to grazing. The *Ovis ornata*, figured by M. Geoffroy in the great French work on Egypt, would appear to be merely a small-sized individual.

"The following may serve for definitions of the various ascertained species of wild Sheep that have been here described:—

"1. *O. Polii*, Blyth. O. cornibus maximis triquetris, angustis altissimisque; angulis anterioribus equalibus: extrorsùm spiraliter gyratis, et tàm prolongatis quam sunt cornua Arietum domesticorum longissima: sulcis transversìm indentatis; colore pallido. Animal non cognitum est, sed *O. Ammoni* magnitudine saltem haud inferius. Habitat apud planitiem elevatam *Pamír* dictam, in Asiâ centrali.

"2. *O. montana*, Desmarest. O. cornibus maximis triquetris, crassissimis, et sæpe inter angulos tumidis, ad apicem compressioribus; sulcis transversìm indentatis; deorsùm et antrorsùm gyratis ad parallelum, apicibus extrorsùm eductis: colore pallido, sed sæpe rufo-brunneo suffuso. Animal ad magnitudinem *Cervi Elaphi* appropinquans, sed artubus brevioribus; pilis griseo-fulvis pallidis, maculis genericis super facie, pectore, artubusque fuscis; caudâ brevissimâ, et disco albescente circumdatâ. Habitat apud Americæ Septentrionalis montes, occidentalem versus.

"3. *O. Ammon*, Pallas. Diversitas hujus speciei ab præcedente non cognoscenda est, quamvis patria differt, hâc in Siberiâ Orientali habitante; tertia alia species ambobus distincta regione intermediâ Kamtschatkæ invenitur, itidem simillima, tamen (apparenter) facillimè dignoscenda; viz.

"4. *O. nivicola*, Eschscholtz. O. cornibus triquetris, et inter cornua *Polii* et *Montanæ* Ovium apparenter intermediis; apicibus magis prolongatis quam in *O. montano*, sed ad basin crassioribus; potius quam in *O. Polio* prolongatis, sed cornibus utriusque minoribus. Magnitudo huic animali inferior est, et pilorum color flavescens, sine disco caudali. Habitat apud montes Kamtschatkæ.

"5. *O. Californiana*, Douglas. O. cornibus crassis triquetris, ad apicem compressioribus; sulcis transversìm indentatis; curvamine aperto extrorsùm (non antrorsùm) gyrantibus, apicibus plurimùm extrorsùm ductis; colore pallido, aut rufo-brunneo paulùm suffuso. Magnitudo Ammonis, vel paulùm inferior: caudâ elongatâ, et non (?) disco pallido circundatâ. Habitat apud Californiam.

"6. *O. Nahoor*, Hodgson. O. cornibus crassis subcylindraceis, suprà magis planiusculis, culmine abruptiore medio, dimidio-distali compressiori, et extrorsùm arcuatis, apicibus retortis: sulcis transversis obsoletis; colore pallido. Magnitudo Arietis grandis; pilis griseis, vel in junioribus adultis fulvo terminatis, maculis genericis fuscis; caudâ brevi et floccosâ. Habitat apud regiones medias montium Himalaicorum, et in Tibetâ Magnâ.

"7. *O. Burrhel*, Blyth. O. cornibus crassis subcylindraceis, suprà

convexioribus, culmine longitudinali minùs abrupto, et aliis angulis minùs prominentioribus quàm in specie præcedente, subequalioribus; in arcu extrorsùm curvatis, apicibus retrorsis; sulcis transversis obsoletis; colore nigrescenti-rubido. Magnitudo inferior est *Nahoori*, sed forma robustior; pilis castaneo-brunneis intensis, maculis genericis nigris et distinctis; caudâ minimâ (?) et non floccosâ. Habitat apud montium Himalaicorum regiones summas.

"8. *O. cylindricornis*, Blyth. O. cornibus maximis cylindraceis, in arcu extrorsùm (?) sine diminutione curvatis, apicibus non cognitis; sulcis transversis obsoletis: colore nigrescenti-rubido. Habitat apud Caucasum.

"9. *O. Gmelinii*, Blyth. O. cornibus triquetris et robustis, altis, et transversìm sulcatissimis; in arcu retrorsùm divergentibus, apicibus introrsùm ductis: colore pallido. Magnitudo Arietis; pilis brevissimis, et castaneo-fulvis splendidè coloratis; maculis genericis subdistinctis, sed lineâ pilorum longiorum nigrâ infra collum in mare solo excipiendâ, apud pectore se expandente, et in utroque sexu cæsarie rudimentâ brachiis, sicut in *Ove Tragelapho*: caudâ brevi et gracillimâ. Habitat apud Armeniam et provincias Occidentales Persiæ Septentrionalis.

"10. *O. Vignei*, Blyth. *O. Musimoni* simillima, sed magnitudine *Cervi Damæ* grandis, æquans artubusque longissimis: cornibus robustis, compressis, et subtriquetris, angulis anterioribus equalibus; lunatìm non spiraliter gyratis; et sulcis transversìm indentatis: colore pallido. Corporis pilis rufo-brunneis; facie artubusque lividis; ventre, et annulis supra ungulas albis; lineâ laterali nigrâ; pedibus annulo secundo nigro anticè albo super-marginato notatis; apice caudæ (brevis et gracilis,) et lineâ pilorum paulò pendentium infra collum medium ad pectus tendente, nigris. Habitat apud Tibetam Minorem. *Varietas dubia* minor, cornibus extrorsùm gyratis, cum angulo interiori prominentiori.

"11. *O. Musimon*, Linnæus. O. cornibus compressis, ad basin triquetrioribus, angulo interiori prominentiori; lunatìm gyratis, et sulcis transversìm indentatis: colore pallido. Magnitudo *Arietis* parvi, caudâ brevi et magis villosâ: pilis rufo-brunneis; facie lividâ, cum capistro albo; ventre, clunibus, dimidiisque artuum inferioribus, albis; et lineâ laterali, caudâ, pectore, et membrorum plerumque dimidiis superioribus, nigris: maculâ triangulari albâ utroque lumbo sæpe conspicuâ. Habitat apud insulas Corsicæ et Sardiniæ, et forsan provinciam Murciæ in Hispaniâ.

"12. *O. Ophion*, Blyth. *O. Musimoni* simillima, sed cornibus retortis, apicibus accurvatis: pilisque brunneis, et non rufescentibus (?). Habitat apud Cyprum, et forsan regiones alias Levantinas.

"13. *O. Aries*, Linnæus.

"14. *O.* ——? *Ixalus Probaton*, Ogilby. Magnitudo *Arietum* maximorum, caudâ paulùm elongatâ: cornibus in specimine solo cognito abnormaliter (?) rudimentalibus. Pilis castaneo-fulvis, et infra albescentibus.

"15. *O.* (*Ammotragus*) *Tragelaphus*. O. cornibus magnis subquadrangularibus, moderatè crassis, ad apicem compressioribus, sulcis

transversìm indentatis; divergentibus et retrorsùm curvatis, sed prope basin rectis, apicibus acclinatis; colore pallido. Magnitudo *Cervi Damæ* superior, pilis flavescenti-brunneis; collo jubato, et infrà cum pectore brachiisque capillato, caudâ elongatâ extremitate villosâ; facie non convexâ—ut in omnibus speciebus aliis, sinibusque suborbitalibus nullis. Fœminâ semper (?) cornutâ, cornibusque fortioribus quàm in fœminis specierum cæterarum hujus generis, quæ sæpe non cornutæ sunt, sed plurimæ cornua parva, tenuissima, et compressiora ferunt, qua in maribus junioribus aut curvata sunt, aut sæpe rectiora. Habitat apud Africæ Septentrionalis montes rupestres."

This paper on the Sheep was illustrated by numerous drawings; and the horns of the Rass of Pamìr, from the Museum of the Royal Asiatic Society, and two pairs of those of the *Shà* of Little Thibet, and one of the Nahoor Sheep, or *Snà* of Great Thibet, brought by G. T. Vigne, Esq., were exhibited.

Mr. Blyth also exhibited various other coloured drawings and specimens collected chiefly in Little Thibet by Mr. Vigne, among the former of which were several figures of the Yak (*Bos grunniens*), a highly-finished portrait of the Jharal* of Mr. Hodgson, another of the *Ovis Vignii*, some sketches of the *Ursus isabellinus*, (or *Syriacus* of Ehrenberg?) and of Buffaloes of the same breed as that of Italy and Hungary, with the long tail, &c., that were drawn from life at Hurriana. This race was more esteemed for the quantity of milk it yields than the ordinary Indian Buffalo, with long horns, a shorter tail, &c., and is doubtless the same, in the opinion of Mr. Blyth, as the Guzurat race indicated in Dr. Buchanan's 'Journey through Mysore,' &c., which that author, however, observed at Seringapatam. It appears to be scantily diffused throughout India, becoming rarer to the eastward.

Among the specimens was the horn of a Stag, from Kashmir, which Mr. Blyth suspected would prove to be the *C. Wallichii* of Duvaucel, or a closely allied species, a description of which may be expected from Dr. Falconer. The specimen exhibited was 44 inches long, and 8 inches round above burr: it had a brow, a bez, and royal antlers, the bez a foot in length, and longest of the three, and it terminated in a bifurcating crown, precisely as in the *Cervus Elaphus* of the Sâl forest of Nepâl, figured by Mr. Hodgson, and supposed by Mr. Ogilby to be *C. Wallichii*, an opinion in which Mr. Blyth coincided. The general character of this horn was intermediate to that of the *Wapiti* and European Stag, but agreeing more nearly with the latter in its kind of granulated surface.

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* "This animal is mostly known as the *Tehr*, *Thaar*, or *Thar*, to the westward of Nepâl, a name applied by Mr. Hodgson to a very different animal, which is usually called *Surow*, or *Surrow*. The first of these names, as suggested to me by Col. H. Smith, is clearly a modification of the Teuton *Thur*, ramifying into *Thier*, *Deer*, &c. &c. &c. *Surow*, or *Surrow*, again passes into various other names, applied to different Himalayan Ruminants; as *Jerow* or *Jerrow* for the *Cervus Aristotelis*, *Serow* and *Chirew* (pronounced with a soft 'Ch') for the *Panthalops chiru*, Hodgson, &c. Then we have *Jharal*, *Goral*, *Goorul*, *Baral*, *Boorul*, *Burrhel*, *Boorhoor*, *Nayoor*, *Nahoor*, and even the Persian *Maral* may be derived from the same root. These names, too, are all severally applied to different animals, whence it often requires much caution in endeavouring to ascertain what species is intended." —E. B.

There were also three pairs of horns of the *Markbur* of Kabul, or *Rawacki* of Little Thibet, a race of feral common Goats (in the opinion of Mr. Blyth), remarkable for their large size, and also that of the horns, which last are more or less twisted, varying from the curvature of those of the Koodoo, only in an opposite direction, to the tense spiral of the Caffrarian Impoof's horns, as shown by the specimens then exhibited. It was remarkable that no tame Goats observed by Mr. Vigne in the same countries at all approached this feral race in stature, nor was it known to occur in Persia, or in Nepâl. From the circumstance of the twist alone of the horns of this animal, Mr. Blyth argued that it was not an aboriginal species; for whereas an inward spirature, or at least a tendency to it at the tips, was all but invariably observable throughout the endlessly diversified races of domestic Goats, neither the wild *Capra Ægagrus*, nor any other of the numerous distinct species of wild *Capræ* known to Mr. Blyth, exhibited this spirature in the least degree; besides which, it appeared to be alike in no two specimens of the *Markbur*. This animal, however, as he was informed, did not vary in colour, which resembles that of an ordinary brown domestic Goat. A description and figure of it have been published in Mr. Vigne's narrative of his travels in Kabul.

Finally, were exhibited the skull and horns of a magnificent specimen of the Himalayan Ibex, being the second skull and third pair of horns of this species examined by Mr. Blyth, all of which accorded with each other in the several particulars in which they differed from the Swiss Ibex. The animal is very closely allied to the latter, having a similar rudimental beard, and colouring, so far as he could learn; but the horns are much longer, considerably less divergent (a constant distinction in both species), and resemble those of the Egyptian Ibex in curvature: excepting towards the base, they are less massive than the horns of the Swiss Ibex, the middle part being narrower; and the tips, which incline more abruptly somewhat forward and inward, are much more attenuated, or drawn out. The splendid pair exhibited, which were in their twelfth year of growth, and all but fully developed, measured 4¼ feet over the curvature, and 10½ inches round at base; diverging to 23 inches asunder, measuring outside, at nearly three-fourths of their length from the base, and the tips returning to 16 inches apart, at a distance of 20 inches from the base inside. They are 4 inches deep at base, 2¼ inches broad anteriorly, and 2 inches at a foot distance from the base, bearing 26 prominences, and numbering, as before remarked, 12 years of growth, which successively give 16, 7, 5, 4, 5, 4, 3½, 2½, 2, 1½, and the last (incomplete) ½, inches. The extreme length of skull is 12 inches, or 18½ inches over the curves, from tip of intermaxillary to occipital *foramen*;

breadth across of orbits posteriorly 7 inches, and total length of bony palate 6¼ inches. The dimensions of the largest pair of horns of the Swiss Ibex examined by Mr. Blyth, and which were of the same age as the preceding, are given as follows. Length 3½ feet over the arch, having a span of 2 feet from base to tip inside; the points 2¾ feet asunder, and basal circumference 10¾ inches; number of prominences above 20, several being comprised within the first 8 inches. They diverge quite regularly, and somewhat spirally, more outward to the tip.

"The Himalayan Ibex," continues Mr. Blyth, "is the *Skyn* or *Skeen*, *Sakeen* or *Sikeen* (as variously written) of different parts of its range, and is numerous, according to Mr. Vigne, in Little Thibet, where it is designated *Skyn*. In Kashmir it bears the name of *Kyl*. Mr. Moorcroft informs us that in Ladakh the male is termed *Skyn*, and the female *l' Danma**: he describes it to inhabit the most inaccessible crags of the mountains; and other authors notice its habits as entirely resembling those of its Alpine congener†. In Kashmir, as I am informed by Mr. Vigne, its *poshm* (or under-fleece of delicate silky wool), which in all the true massive-horned Ibices is amazingly copious in winter, is highly prized, 'that of one large Ibex being equal to the produce of three Shawl Goats, besides being softer and finer. I have some beautiful cloth,' continues that gentleman, 'made from the *poshm* of the Ibex. The animal is of a sepia-brown colour.' It may be further noticed, that in the 'Journal of the Asiatic Society of Bengal,' vol. v. p. 242, it is stated that Major Kennedy had a pair of these animals, stuffed, at Suhatu, in Kunawar. A skull and horns which I saw at Mr. Leadbeater's was received from Nepâl, where, however, the species does not yet appear to have been noticed by Mr. Hodgson. Dr. Falconer has probably named it.

"*Himalaya Ibex.* *Capra* Ibici Helvetico simillima, sed cornibus magis prolongatis, semper minùs divergentibus, apicibus attenuatioribus et ad antrorsùm abruptiori-curvatis,—sic ut in plurimis speciebus hujus generis, at vix in *Caprâ Ibice* verâ."

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* Travels, i. 311.

† Vide 'Journal of a Trip through Kunawar,' published in the 'Journal of the Asiatic Society of Bengal' for 1839, p. 928.

August 11, 1840.

R. C. Griffith, Esq., in the Chair.

A paper entitled "Description of Shells collected and brought to this country by Hugh Cuming, Esq.," by W. J. Broderip, Esq., F.R.S., etc., was read.

"Mr. Cuming," observes the author, "the fruits of whose western voyage are so well known, left England on the 26th of February, 1836: he proceeded to the Philippine Islands, by the permission of the Queen Regent of Spain, and aided by powerful recommendations from her government, which opened to him the interior of the islands, and caused him to be received with a noble hospitality, equalled only by the warm interest which facilitated his pursuits wherever he arrived and made himself known.

"Mr. Cuming visited the whole group. His longest stay was in the island of Luzon, fifteen provinces of which were well ransacked by him. In the islands Mindoro, Negros, Panay, Siquijod, Zebu, Bohol, Camiguing, Mindanao, Leyte, Samar, Capul, Ticao, Masbate, Burias, Temple, Marinduque, Maracavan, and Rambion, he reaped a fine harvest. He left the Philippines in November, 1839, proceeded thence to Sincapore and Malacca, and returned to England in June, 1840, bringing with him, besides the living animals which he has liberally presented to this Society, a grand collection of zoological and botanical specimens, including more than three thousand species and varieties of shells, the greater part of which appear to be new to science, and among them are several new genera. The smaller islands were particularly rich in the pulmoniferous mollusca, which were found by Mr. Cuming principally in deep forests. We commence a notice of the labours of this active and zealous collector, with an attempt to describe a few of these terrestrial species. Mr. G. B. Sowerby, who liberally gives up his valuable time to assist in laying before the public the novelties of this part of the collection, will also begin his share of the task, by describing another branch of the same numerous family; and it is intended to submit descriptions to the Society from time to time till the whole of Mr. Cuming's stores are exhausted.

"Before, however, we commence our task, I must, in justice to him who has placed the materials in our hands, observe, that, to say nothing of the variety of new forms which he has been the means of bringing to light, those who cultivate this branch of zoology so highly interesting to the geologist, as well as the physiologist, owe him a large debt of gratitude, for information on a point of no small zoological importance. It is not very long since, that the localities ascribed to shells could in very few instances be depended upon.

The cupidity of dealers, some years ago, not unfrequently prompted them wilfully to deceive those who gave extravagant prices for new shells on this point, and carelessness was generally the order of the day. Mr. Cuming, by his accurate notes, and the open publication of the places where every one of the multitudinous species and varieties collected by him was found, has mainly assisted in making a complete revolution in this department of the science, and has done more towards giving us data for the geographical distribution of the testaceous mollusca than any person who has yet lived.

"HELICIDÆ.

"When we consider what the genus *Helix* was when Linnæus wrote, and what it now is, we must be struck with the flood of new species which has been poured in upon us of late years. Already the vocabulary has been so drawn upon, that the mere finding names for the new species is attended with no small embarrassment, whilst the limits of each species are daily more difficult to fix. When a few forms only in a great natural group are known, they are easily defined. It is where multitudes are placed before the zoologist, marked with every variation that food and temperature and locality can impress upon them, that it becomes no longer easy to solve the problem, 'Which is a species and which is a variety?' Then it is that the pregnant question 'What *is* a species?' comes home to the mind. But our business now is to define, as well as we can, those forms which have been laid before us, and which, to us at least, are new. When the whole of the additions to this great tribe existing in Mr. Cuming's collection have been studied, we shall perhaps have materials for something like a complete natural arrangement of the group."

Genus BULINUS*.

BULINUS MINDOROENSIS. *Bul. testâ ovatâ, ventricosâ, subpronâ, anfractibus sex, ultimo longè maximo, lineis incrementi obliquè striatâ, aperturâ subrotundâ, columella latâ, labio expanso.*

Var. *a. valdè ventricosa, sordidè brunnea strigis irregularibus longitudinalibus varia; aperturâ subalbidâ; labio nigro-brunnescente.*
Hab. ad Puerto Galero in insulâ Philippinâ Mindoro dictâ.
Legit H. Cuming in sylvis.

Var. *b. Pallidior, coloribus distinctioribus, fasciâ suturali brunneâ interruptâ; anfractu ultimo fasciâ brunneâ strigis longitudinalibus interruptâ cincto; labii margine castaneo-rufescente.*
Hab. ad Mansilai in insulâ Mindoro.
Legit H. Cuming in sylvis.

Var. *c. Gracilior, longitudinaliter brunneo et flavo sordido striata.*
This comes very near in colouring, and approaches somewhat in

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* "I have elsewhere (Zoological Journal, vol. iv. p. 222) given my reasons for writing Buli*n*us instead of Buli*m*us. Adanson's *Bulin* was a *Physa*, and the word, however written, is very inapplicable to the forms to which Bruguière, Lamarck and authors generally have applied it."

the shape of the aperture, to the two first varieties of *Bul. chrysalidiformis*. The markings of the young shell remind the observer of the eggs of some of the Plovers, and the shape assists the delusion.

Hab. ad Puerto Galero in insulâ Mindoro.

Legit H. Cuming in sylvis.

Var. *d. Sordidè flavescens creberrimè longitudinaliter corrugata et strigata.*

A brilliant *chatoyant* reflection, like Labradorite, is to be observed on the polished surface of the dark brown reflected part of the outer lip in fresh specimens.

Var. *e. Subnana, gracilior, strigis et coloribus distinctioribus, clarioribus.*

Hab. ad Puerto Galero.

Legit H. Cuming in sylvis.

This variety was the most abundant, and Mr. Cuming informs me that he detected it in the act of depositing its eggs on the leaves of trees in the forest where it was feeding. The eggs, which are white, oblong, and covered with a hard, granular shell, were attached to the leaves by a gummy substance. They are half an inch long, and nearly four-twelfths across in their widest part.

Var. *f. Anfractu ultimo nigrescente, anticè flavo subsordido strigata vel maculata, fasciâ nigrescente basali.*

Hab. ad Puerto Galero.

Legit H. Cuming in sylvis.

In this variety, the abrupt termination of the yellowish markings toward the basal portion of the body-whorl leaves the dark colour almost uninterrupted, in the shape of a dark band.

Var. *g. Strigis distantibus, anfractu basali erga basin cincturâ moniliformi, interruptâ, albidâ vel flavescente ornato.*

Hab. ad Mansalai in insulâ Mindoro.

Legit H. Cuming in sylvis.

Var. *h. Pallida, strigis latis, anfractu ultimo fasciâ pallidiori subbasali cincto.*

Hab. ad Mansalai.

Legit H. Cuming in sylvis.

Var. *i. Strigis irregularibus, angulatis, frequentibus tota picta.*

Hab. ad Mansalai.

Legit H. Cuming in sylvis.

Var. *k. Cinereo-subvirescens, strigis pallidis angulatis, distantibus, brunneo-marginatis obscurè ornata, anfractu basali fasciâ brunneo-rufescente subbasali cincto.*

Hab. ad Puerto Galero.

Legit H. Cuming in sylvis.

Near the *umbilicus*, the *epidermis*, in those specimens of var. *k.* which I have seen, is worn off, exposing the rich red-brown ground colour of the shell. Indeed in all the varieties the dark colour generally appears to reside in the shell itself, and the lighter-coloured markings, with few, if any exceptions, in the *epidermis*. In the largest variety (*a*) here described, the effect of the detrition of the *epidermis* is well shown. Var. *k*. comes very close upon var. *c*. of *Bulinus chrysalidiformis*. The length of this species is 6 inches and under, and the breadth from about 1 to $1\frac{1}{8}$th of an inch.

BULINUS CHRYSALIDIFORMIS. *Bul. testâ valdè productâ, subpupiformi, subcylindricâ, lineis incrementi obliquè rugosâ; aperturâ subauriculiformi, distortâ; columellâ subrectâ, amplâ, complanatâ; peristomate interrupto; labio interno expanso, labio externo expanso, subrecurvo, sæpiùs subconstricto; umbilico subobsoleto.*

Var. *a. Subgracilis, anfractibus 7 subventricosis, ultimo vix subventricosiori; pallidè castanea vel brunnescens strigis longitudinalibus, irregularibus sordidè flavis picta; aperturâ intus subalbidâ; labio nigro-purpurascente.*

This variety is curiously marked. In the young shells the colours are more pure and distinct, but as the animal becomes aged they are more confused, and run into each other. In both states the upper whorls are transparent, and the two last opaque.

Var. *b. Pallidior, labio haud constricto, ex albido dilutè purpurascente.*

Hab. ad Puerto Galero.

Legit H. Cuming in sylvis.

The distortion and a shade of the constriction may be traced in the mouth of this variety.

Var. *a.* et *b.* habitant ad Puerto Galero.

Legit H. Cuming in sylvis.

Var. *c. subflava, anfractibus ventricosioribus, fasciâ suturali albidâ et subpurpureâ tessellatâ; aperturâ amplâ, albâ, labii margine castaneo-purpurascente.*

The shells of this variety are much less thick than those of the two first, and are nearly transparent throughout; but it must be remembered that all which I have seen of this variety appear to be younger shells: the body-whorl is also much more ventricose in proportion.

Var. *d. Tota flavescens, labio albo.*

This variety, as well as the last, when held against the light, shows shadings of the longitudinal stripes.

Var. *c.* et *d.* habitant ad Mansalai.

Legit H. Cuming in sylvis.

⁂ *Bulinus chrysalidiformis* of G. B. Sowerby (Zool. Proc. 1833, p. 37) is a faded shell of var. *c.* or *d*. It is without *epidermis*, and entirely white, except the margin of the lip, which is brownish. The length of this species varies from $2\frac{7}{8}$ths inches to $2\frac{2}{8}$ths, and the breadth from $1\frac{5}{8}$ths to $1\frac{1}{8}$th.

"The shells which I have here attempted to describe were collected by Mr. Cuming in deep and dark forests of thick foliage, some upon, and others beneath, the leaves of trees. There were no palms in these forests.

"I cannot quit this group without acknowledging that I am not without doubts as to the specific difference of *Bul. chrysalidiformis* and *Bul. Mindoroensis*. If the shells at the greater intervals be taken, they appear to be distinct, but there are gradations in these numerous and motley Mindoro snails, that at least closely approximate the two sections into which I have divided them."—W. J. B.

Mr. Cuming exhibited the various species and varieties of shells described in the foregoing paper, and also a series to illustrate the memoir of G. B. Sowerby, Esq., which was next read: it is entitled "Descriptions of new species of the family of *Helicidæ*, collected by Mr. H. Cuming in the Philippine Islands."

HELIX (COCHLOGENA De F.) POLYCHROA. *Hel. testá obovatá, tenui, nitidá, anfractibus quinque, primis præsertim, ventricosis, obliquè lineis incrementi, striatis, ultimo majori, cæteris duplò longiori, fasciâ diversicolore, plerùmque albá, prope suturam: aperturá suborbiculari, peristomate plerumque albo, extus reflexo; columellá albá, rectiusculá, anticè subcallosá, subsinuatá.* Long. 1·9, lat. 1·3 poll.

H. virido-striata, Lea secund. Jay.

Hab. in foliis arborum ad insulam Temple dictam Philippinarum.

One of the most beautiful, as well as one of the most variable species in colour. In its general form it is very near var. *b*. of Lamarck's *Helix galactites* (*H. mirabilis*, De F. Hist. Nat. Gen. et Part. des Mollusques terr. et fluv. t. 31. f. 4 to 6), which has been called *H. Philippinarum*, but from which it may easily be distinguished by attention to the above characters. The following seven varieties in colour have been brought by Mr. Cuming: viz. var. *a*. bright green, with darker, longitudinal, oblique, slightly undulated lines and bands, and a white band at the suture: var. *b*. the same, with the addition of a narrow, very darkly coloured brown band immediately below the white sutural band, and a broad spiral dark brown basal band: var. *c*. the same, with two additional dark brown bands on the last volution: var. *d*. bright light brown, with green, slightly undulated oblique longitudinal bands, and a white sutural band: var. *e*. the same as var. *a*., but having the sutural band of a light and dark brown colour varied: var. *f*. of chestnut brown, with a white sutural band: var. *g*. of a dark chestnut brown, with a light orange brown sutural band.

This species is *Helix virido-striata* of Lea, according to Dr. Jay; I know not if that name be published or not. I hope not, because it cannot be adopted, neither being consonant with the rules of nomenclature, nor with classic purity.

HELIX (COCHLOGENA De F.) FLORIDA. *Hel. testá obovatá, tenuiusculá, haud nitente, anfractibus quinque ventricosis, tenuissimè obliquè striatis, ultimo majori, cæteris ferè duplò longiori; suturá minutissimè crenulatá, albá; aperturá suborbiculari peristomate latiusculo, reflexo, rotundato, albo; columellá albá, subincurvá.* Long. 1·6, lat. 1·1 poll.

Hab. in foliis arborum prope Munsolai ad insulam Mindoro Philippinarum.

This, like the last, is a very beautiful species, and it is also subject to much variation in colour; its varieties, nevertheless, are not so numerous. It is principally remarkable for its surface being dull like the bloom upon green plums or grapes. The following varieties are exhibited by Mr. Cuming: viz. var. *a.* of an uniform green, becoming paler toward the apex, where it is white: var. *b.* green, with a brown band close to the white sutural band, and the apex of a reddish brown: var. *c.* green, with a dark brown band near the sutural band, and a dark brown spiral band close to the *columella*: var. *d.* the same, with two intermediate brown bands, both of which, however, are not continuous: var. *e.* brown, with a dark brown band next to the sutural white band, and the dark brown spiral band surrounding the *columella.* In all these varieties the narrow white sutural band is constant, and the anterior part of the last volution within the aperture is yellower than the outer surface.

HELIX (COCHLOGENA De F.) HYDROPHANA. *Hel. testâ obovatâ, tenuiusculâ, nitidulâ, anfractibus quinque ventricosis, obliquè tenerrimè striatis, ultimo majori, cæteris duplò longiori, omnibus plùs minùsve epidermide hydrophanâ indutis; aperturâ suborbiculari, peristomate albo, rotundato, reflexo; columellâ subarcuatâ, anticè in tuberculam indistinctam productâ.* Long. 1·35, lat. 1·05 poll.

Hab. prope Puerto Galero ad insulam Mindoro Philippinarum.

The ground colour of this extraordinary species is brownish yellow, and it has two, three, or four broader or narrower very dark brown spiral bands. A rather thinner variety, with three bands, is found in the island of Corregidor, in the Bay of Manilla. The most remarkable circumstance in its natural history is that it is more or less covered with a very thin, opaque, white *epidermis,* which becomes transparent on being wetted; the dark brown bands are then seen brilliantly contrasted with the yellowish brown general colour of the shell.

HELIX (HELICOSTYLA De F.) CEPOIDES. *Hel. testâ suborbiculari, tenui, spirâ subdepresso-conicâ; anfractibus senis, ventricosis, posticè depressiusculis, lineis incrementi striatis; suturâ distinctâ; aperturâ semilunari, peristomate posticè tenui, subreflexo, tùm crassiori, reflexo; columellâ in dentem obtusum producto.* Long. 1·8, lat. 2·2 poll.

H. cepoides, Lea, M.S. secund. Jay.

Hab. ad insulam Luban Philippinarum.

This species most nearly resembles *H. unidentata*, Lam. Anim. sans Vert. VI. pt. 2, p. 74, from which it may easily be known by its more ventricose volutions, and its much narrower aperture. It differs also in colour, the *unidentata* being usually of a dark chestnut brown, while in the *Dolium* the spire and more than the upper half of the last volution are of a light brown, and the remainder lighter coloured still, and between the darker and lighter colour is a band of nearly white. The *epidermis* in this species is very thin and pale-coloured, and it has alternating darker marks close to the suture. A variety occurs of a nearly uniform pale brownish yellow colour, though in other respects similar.

I gladly adopt Lea's manuscript name of *cepoides*.

HELIX (HELICOSTYLA ? De F.) ARATA. *Hel. testâ ovatâ, subcylindricâ, crassiusculâ, rufo-fuscescente, fasciâ antemedianâ albidâ; anfractibus senis, subventricosis, obliquè exaratis, subrugosis; suturâ distinctâ, crenulatâ; aperturâ ferè circulari, intùs albâ, peritremate expanso, subreflexo, fusco; columellâ albâ; umbilico mediocri.* Long. 1·7, lat. 1·1 poll.

Hab. ad insulam Tablas Philippinarum.

Variat testâ omninò pallidè lutescente, aperturâ peritremateque albis.

The two varieties of this remarkable species differ so much in colour that they might at first sight be regarded as distinct species; I do not, however, discover any real difference in their conformation, and therefore am compelled to unite them as varieties. The ridges between the furrows vary greatly in their distance from each other; they appear to be more and more frequent as the shell increases in age.

HELIX (HELICOSTYLA ? De F.) ADUSTA. *Hel. testâ oblongâ, subcylindricâ, castaneâ, lævigatâ, tenuissimè lineis incrementi striatâ, fasciâ antemedianâ pallidiori; anfractibus senis subventricosis; suturâ distinctâ; aperturâ ferè circulari, intùs albicante; peritremate levitèr expanso, reflexo, fusco; columellâ pallidâ; umbilico parvo.* Long. 1·8, lat. 1· poll.

Hab. ad insulam Tablas Philippinarum.

This species resembles the last in form as well as colour; it differs, however, in its general proportions, as well as in being entirely free from the numerous and deep oblique grooves so remarkable in that species; its *umbilicus* also is smaller.

HELIX (HELICOSTYLA ? De F.) BRACHYODON. *Hel. testâ ovato-subcylindricâ, tenui, castaneâ, fasciâ anticâ pallescente; anfractibus quinque ad sex subventricosis, lineis incrementi tenuitèr obliquè striatis; suturâ distinctâ, levitèr crenulatâ; aperturâ suborbiculari, intùs albicante; dente obtuso, antico, albo; peritremate subincrassato, reflexo, subexpanso, internè inter columellam dentemque sinuato; columellâ albâ, obtusâ; umbilico parvo.* Long. 1·95, lat. 1·3 poll.

Hab. in foliis arborum prope Puerto Galero ad insulam Mindoro Philippinarum.

Variat testâ breviori, colore saturatiori, striisque fortioribus. Long. 1·35, lat. 1·2 poll.

I have named this species *Brachyodon*, from a short white tooth placed at the inner and anterior part of the lip, and which appears to be constant, I do not hesitate to regard the shorter specimens as merely a variety, though they differ greatly in their proportions from the typical variety. A single nearly colourless specimen is intermediate in its proportions.

HELIX (COCHLOGENA De F.) PULCHERRIMA. *Hel. testá orbiculari, subglobosá, tenuiusculá, haud nitente, spirá plerùmque subdepressá, anfractibus* $4\frac{1}{2}$, *ventricosis, lævibus, striis solùm incrementi tenuissimis insculptis, coloribus pulcherrimè ornatis, ultimo maximo, cæteris quadruplò longiori; suturá distinctè impressá; aperturá rotundato-semilunari, intùs albá, peristomate latiusculo, rotundato, reflexo, extùs ad basin columellæ subsinuato; columellá dilatatá, subplanulatá.* Long. 1·5, lat. 2· poll.

Hab. prope St. Jaun in provinciâ Cagayan insulæ Luçon Philippinarum.

The usual ground colour of this very pretty shell varies from a pale yellowish brown, through orange brown, to dark chestnut brown; some of its varieties are of a nearly uniform colour, others are very elegantly varied, with narrower or broader, and more or less numerous interrupted bands of opaque white *epidermis* (which are transparent when wetted), and which gives them a very brilliant and captivating appearance, to which it is indeed impossible in words to do justice.

This species is usually about the same size as *Helix Pomatia*, differing from that, however, very greatly in form and proportions, and varying, moreover, greatly in size. It is nearly orbicular, somewhat globose, with a slightly depressed obtuse spire. It is of a thin substance, and its surface is dull. Its volutions are four and a half, of which the first is rounded, and the last is very large, being four times as long as the rest, and very ventricose; they are smooth, being closely covered with the very slender lines of growth; the suture is very distinct, inasmuch as that the posterior part of the next volution is nearly horizontal, and the anterior part of the last volution nearly perpendicular to it. The aperture is large (not so large in proportion as Deshayes's *Helix Cailliaudi*, Mag. de Zool., 1839, 'Mollusques,' Pl. 5.), of a rounded semilunar form, and white within: the peristome is rather broad and thick, rounded and reflected; in some varieties it is quite white, in others it is delicately coloured of a rose tint, and sometimes of a brownish red: the *columella* is dilated and rather flattened, usually quite white, though occasionally tinged with rose.

The following are the twelve principal varieties which have occurred to Mr. Cuming, viz.

Var. *a.* General colour dark chestnut brown; apex brownish scarlet; edge of the peristome purplish crimson; body covered with broader and narrower white interrupted bands, set nearly close together.

Var. *b.* The same, only not having so many of the white bands, the ground colour is seen in broader bands.

Var. *c.* General colour dark chestnut brown, with numerous interrupted bands of light brown *epidermis*; apex brownish scarlet; edge of the peristome purplish brown.

Var. *d.* Ground colour orange brown, with numerous white interrupted bands; peristome white.

Var. *e.* Dark chestnut brown, with only three or four light-coloured interrupted bands, so that the dark brown ground colour appears in broad bands.

Var. *f.* Light yellowish brown, with the apex red, and the edge of the peristome rose colour; numerous close-set, interrupted, nearly white bands ornament this variety.

Var. *g.* The same ground colour as the last, with a light buff-coloured edge to peristome, and a single white scarcely interrupted band, forming the circumference of the shell.

Var. *h.* With a chestnut brown ground colour, a red apex, and orange-coloured edge to the peristome, and one white band, forming the circumference.

Var. *i.* With a chestnut brown ground, a red apex, and an orange-coloured edge to the outside of the pink-edged peristome, and without any white band but a slender white sutural line.

Var. *k.* With a yellowish brown ground colour, the apex and the back of the peristome bright orange-red; peristome and columella rose-coloured; without a band, but with a slender white suture line.

Var. *l.* Of an uniform yellowish brown, with white peristome.

Var. *m.* Of an uniform pale brownish yellow, with white peristome.

The most beautiful varieties are most abundant on the leaves of bushes and young trees at St. Jaun, where also all the other varieties are found. Some of the lesser painted varieties are also found at Abulug in the same province. The species has not been found in any other part of the Philippine Islands.

Since this paper was read two other varieties have been found by Mr. Cuming in his packages; they are

Var. *n.* Of a very rich dark chestnut brown, with a scarlet apex, four very narrow interrupted white bands of *epidermis,* a white suture, and orange-coloured outer edge to the white peristome.

Var. *o.* Of a rich light brown colour, with a yellowish band forming the circumference of the shell, and another band of the same yellowish colour in front, near the *columella*; peristome white, its edge pink, and back of the lip orange-yellow.

August 25, 1840.

W. H. Lloyd, Esq., in the Chair.

Specimens were exhibited of five new species of Kangaroo, forming part of the collection made by Mr. Gould, who had just returned from Australia, after an absence of two years and a half spent in the investigation of the habits and œconomy of the animals of that continent.

The first of these Kangaroos to which Mr. Gould drew attention was a large species, but little inferior in size to the *Macropus major*, inhabiting the summits of the mountain ranges in the interior of New South Wales. Mr. Gould observed, that it is a most powerful animal, and very dangerous to approach. The unusual strength and size of the limbs suggested the specific name of *robustus*, and Mr. Gould accordingly characterized it as

MACROPUS (PETROGALE*) ROBUSTUS. *Macr. artubus anticis magnis et prærobustis; vellere e fusco cinereo, apud partes inferiores pallidiore; tarsis fuscis; digitis anticè nigris; antipedibus, et carpis, nigris; capite fuliginoso levitèr tincto; utrâque genâ lineâ albescente notatâ; gulâ, guttureque albidis; caudâ supernè fuscâ, subtùs pallidiore.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin....	47	0
——— *caudæ*	25	6
——— *tarsi digitorumque* (sine unguibus)..	11	0
——— ab apice rostri ad basin auris	8	0
——— *auris*	3	7

Fœmina differt vellere ex argenteo cinereo, corpore subtùs ferè albo. Long. corporis cum capite, 33 unc.; *caudæ*, 26; tarsi digitorumque, 10 unc. 2 lin.

The second species has a remarkably elegant appearance, being of a slender delicate form, and adorned with two white stripes, which commencing at the *occiput*, run down the back of the neck on to the shoulders, where they are recurved. Mr. Gould proposed to designate this species

MACROPUS FRÆNATUS. *Macr. elegans, et gracilis; vellere molli brevi, colore e fusco cinereo; corpore subtùs albo; ab occipite utrinque super humeros lineâ angustâ albâ currente; interspatio obscuro, et apud occiput nigrescente: caudâ tuberculo parvo corneo ad apicem instructo, pilis nigrescentibus abscondito; tarsis, artubusque anticis ferè albis, digitis pilis obscuris paulò adspersis.*

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* The *Petrogale* of Gray is probably identical with *Heteropus* of Jourdan.

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin....	23	0
———— *caudæ*	20	0
———— *tarsi digitorumque* (sine unguibus)..	5	6
———— ab apice rostri ad basin auris	4	2
———— *auris*	2	3

Hab. Interior of New South Wales.

The third species is about the same size as the last. The most remarkable character in this animal consists in its having a nail at the tip of the tail: this nail is hidden by the tuft of hair with which the end of the tail is furnished, and greatly resembles a finger-nail, both in texture and form, but is of a black colour. The name proposed for this species was

Macropus unguifer. *Macr. corpore gracili, caudâ perlongâ; vellere perbrevi, et mediocritèr molli: colore fulvo, parte corporis anteriore, et collo albescentibus; capite ferè toto, nec non artubus abdomineque albis: notâ fuscâ longitudinali, apud dorsum; caudâ albidâ, apicem versus, pilis longis et fuscis indutâ, ad apicem cum ungue nigrescente, ferè magnitudinem et figuram unguis exhibente, ut in digito hominis videtur, instructâ.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin....	25	0
———— *caudæ*	26	0
———— *tarsi digitorumque* (sine unguibus)..	7	0
———— ab apice rostri ad basin auris	4	0
———— *auris*	2	6

Hab. North-west coast of Australia.

To the fourth species, having two crescent-shaped white marks on the shoulders, Mr. Gould gave the name of

Macropus lunatus. *Macr. capite brevi, auribus magnis; artubus anticis parvis; tarsis mediocritèr elongatis et gracilibus; colore cinereo, collo humerisque ferrugineo pallidè tinctis; corpore subtùs e cinereo albo; lineâ arcuatâ albâ in utrinque latus, ab humeris extensâ.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin....	18	0
———— *caudæ*	0	0 ?
———— *tarsi digitorumque* (sine unguibus)..	4	6
———— ab apice rostri ad basin auris	3	0
———— *auris*	2	0

Hab. West coast of Australia.

The fifth species resembles the Common Hare in size, and in the texture of the fur; so much so, indeed, that a portion of its skin could not be distinguished from that of a Hare. The fore-legs and feet of this animal being very small, Mr. Gould proposed to describe it as

Macropus Leporides. *Macr. pro magnitudine et velleris colore* *nec non texturâ,* Lepori timido *assimilis; capite breviusculo; antibrachiis pedibusque parvulis; caudâ breviusculâ et gracili; corpore supernè nigro, fusco et flavido variegato; apud latera, et circum oculos colore pallidè fulvo prævalente; abdomine e cinereo albo; artubus anticis ad basin nigris.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin....	19	6
——— *caudæ*	13	0
——— *tarsi digitorumque*	4	9
——— ab apice rostri ad basin auris	4	0
——— *auris*	2	0

Hab. Interior of Australia.

Mr. Gould also exhibited a remarkable spiny Lizard, allied to the Agamas, which he had procured from Swan River.

Mr. Gould then called the attention of the Members to an extraordinary piece of Bird-architecture, which he had ascertained to be constructed by the Satin Bird, *Ptilonorhynchus holosericeus*, and another of similar structure, but still larger, by the *Chlamydera maculata*. These constructions, Mr. Gould states, are perfectly anomalous in the architecture of birds, and consist in a collection of pieces of stick and grass, formed into a bower; or one of them (that of the *Chlamydera*) might be called an avenue, being about three feet in length, and seven or eight inches broad inside; a transverse section, giving the figure of a horse-shoe, the round part downwards. They are used by the birds as a playing-house, or "run," as it is termed, and are used by the males to attract the females. The "run" of the Satin Bird is much smaller, being less than one foot in length, and moreover differs from that just described in being decorated with the highly-coloured feathers of the Parrot tribe; the *Chlamydera,* on the other hand, collects around its "run" a quantity of stones, shells, bleached bones, etc.; they are also strewed down the centre within. Mr. Gould spent much time in observing the habits of those birds, and was fully satisfied that the "runs" were actually formed by them, and constructed for the purposes described.

Two papers were then read, in which the authors resume the descriptions of the Shells collected by H. Cuming, Esq., Corr. Memb., in the Philippine Islands, who exhibited specimens in illustration of the papers.

The first of these papers is from W. J. Broderip, Esq.

BULINUS DRYAS. *Bul. testâ elongato-ovatâ, vix subdiaphanâ, peristomate interrupto, crassiusculo, lato, expanso, subrecurvo; nitidè albâ vel flavescente brunneo castaneove vittatâ.*

Var. *a. alba, anfractu basali trivittato, vittâ superiore et inferiore striis nigro-fuscis; mediâ castaneâ, nonnunquam interruptâ.*

This variety is sometimes yellowish, and the three bands on the body-whorl are nearly uniform chestnut.

Var. *b. anfractu basali bicincto, vittâ superiore angustâ, vittâ inferiore tristrigatâ.*

Var. *c. anfractu basali nitidè albo, vittâ superiore et inferiore angustis nigrescentibus limbato.*

Var. *d. Pallidè flava fasciâ suturali albente, anfractu basali vittâ superiore et inferiore angustissimis, castaneis limbato; cæteris castaneo univittatâ.*

Var. *e. Tota alba.*

Hab. ad Mansalai in insulâ Mindoro.

Legit H. Cuming in sylvis.

Mr. Cuming informs us that the animal of this elegant shell, which in the form of the spire and the distribution of the colouring, though not in the colouring itself, reminds the observer of *Achatinæ fasciata, emarginata* and *virginea* of Swainson (Zool. Ill.), varies much. In all the varieties the broadly expanded lip is white, both above and below, and the bands of the body-whorl terminate abruptly upon its upper part, so that the shell almost looks as if the wide white lip had been added to some of the Riband *Achatinæ*, for varieties of which some of the young might be taken by a cursory observer. The animal was ash-coloured, darker above. General length of the shell about two inches; width of body-whorl from $\frac{6}{8}$ths to $\frac{7}{8}$ths of an inch.

BULINUS SYLVANUS. *Bul. testâ elongato-ovatâ, subdiaphanâ, subpyramidali, anfractibus ventricosioribus, fuscâ castaneo vittatâ, strigis et maculis flaventibus vel albentibus, longitudinalibus pictâ; peritremate interrupto, columellæ basi subsinuatâ, aperturâ subauriculari; labro expanso, recurvo.*

Var. *a. Fusca vel flavescens fasciâ suturali tenui albâ, apice purpurascente, anfractu basali castaneo trifasciato, fasciis inferioribus maximis, strigis angulatis longitudinalibus picto, anfractibus cæteris frequentissimè longitudinaliter strigatis et maculatis.*

Var. *b. Nitidè flavescens, anfractu basali castaneo quadrivittato.*

Var. *c. Flavescens anfractu basali bivittato.*

Several of this variety have traces of the longitudinal zigzag lines and spots upon the body-whorl.

Var. *d. Ventricosior, anfractu basali trivittato, apice purpurascente, vittis nigricantibus.*

Var. *e. Sordidè fusca strigis et maculis angulatis elongatis obscurè sparsa.*

Var. *f. Tota flavescens, lineâ tenuissimâ suturali albâ, gracilior.*

Hab. In insulâ Mindoro.

Legit H. Cuming in sylvis.

Some of the varieties of this fine shell, especially variety *b*, will remind the observer, at first sight, of the species last described; but Mr. Cuming informs us that the animal is reddish brown, and, besides other differences in the shell, the colouring-matter, instead of stopping short at that point of the body-whorl, just where the lip begins to expand, is continued on to the very rim, which is in most instances bordered with it; nay, the colour generally becomes more intense upon the upper part of the expansion. Varieties *d.* and *e.* were found at Calapan; varieties *c.* and *f.* at Puerto Galero. The latter variety has generally a chestnut oblique stripe or spot at the bottom of the whorl and on the upper expansion of the outer lip, continued from above the *columella.* Sometimes there is an obscure line of a somewhat darker hue belting the body-whorl in this same variety.

This species varies a good deal in length and breadth. The average length may be taken at about two inches, and the width across the body-whorl, at from more than an inch to $\frac{6}{8}$ths of an inch.

BULINUS FICTILIS. *Bul. testâ subpupiformi, anfractibus sex ventricosis, lineis incrementi obliquis fortioribus, peristomate interrupto, expanso, crassiusculo, labro expanso, aperturâ subauriculari, suprà subangulatâ, albâ.*

Var. *a. Nitidè fusca strigis, punctis, lineisque albentibus notata, anfractûs basalis vittâ suturali angustâ subalbidâ.*

Var. *b. Albescens, strigis maculisque castaneo-nigricantibus longitudinalibus, clarioribus.*

Var. *c. Flavescens, lineis strigisque longitudinalibus albentibus, anfractûs basalis fasciâ angustâ obscurâ.*

Var. *d. Griseo-albens vel albens, strigis longitudinalibus albidis.*

Hab. in insulâ Philippinâ Cuyo dictâ.

Legit H. Cuming in sylvis.

In var. *a.* the dark ground-colour of the shell is striped, and powdered, as it were, with the whitish *epidermis*; in var. *b.* this whitish *epidermis* predominates, so that the longitudinal zebra-like stripes arising from the exposure of the dark brown, but shining ground-colour, are comparatively distinct. Var. *d.* seems to be the albino-state of the species. General length about 1$\frac{5}{8}$ths inch; breadth about $\frac{5}{8}$ths.

BULINUS LARVATUS. *Bul. testâ elongato-pyramidali, gracili, subdiaphanâ, lineis incrementi obliquis, aperturâ auriculari, supernè angustatâ, labro crasso, expanso, recurvo, fuscâ strigis pallidis obliquè longitudinalibus, distantibus, variâ; aperturâ albâ; labri margine externo infernè fusco limbato.*

Hab. in insulâ Cuyo.

Legit H. Cuming in sylvis.

It is not without doubt that I have separated this shell specifically from the last; but in addition to the difference of shape, the colouring matter, here again, instead of stopping short just above the outer lip, where it begins to expand, as is the case with *Bul. fictilis,* is carried on and over the external expanse of the outer lip, so as to constitute a coloured rim on its lower external edge. In other respects there is much similarity between the two. General length about 1$\frac{1}{2}$ inch; breadth across body-whorl rather more than half an inch.—W. J. B.

Following is the continuation of Mr. G. B. Sowerby's paper:—

HELIX DECIPIENS. *Hel. testâ globosâ, tenuis, lævis, haud nitens, striis incrementi subtilissimè striata, plerumque pallescens, non-*

nunquam unicolor, sæpius zonis duabus nigris ornata; anfractibus quatuor, rotundatis, ultimo maximo; aperturá subcirculari; peritremate reflexo, albo, columellá albá, subincurvá, rectiusculá.

Long. 1·2, lat. 1·35.

Hab. supra folia arborum ad insulam Marinduque, Philippinarum.

The appearance of the different varieties of this species might lead to the supposition that they were distinct species, in consequence of the peculiarities of the outer portion of the epidermis. The whole epidermis of this species seems worthy of particular notice: it consists of an inner coat, which is rather thick, horny, apparently strongly adhesive, and of a greenish brown yellow colour; and of an outer partial coat, which is white and hydrophanous, and which does not entirely cover the inner coat, but is variously arranged upon it in the different varieties. The following are the most remarkable varieties:—

a. Shell brown, with two very dark-brown spiral bands, a lighter antesutural band, and a very dark columellar band. Lip white at the back as well as in front. From the island of Marinduque.

b. Shell coloured similarly to the last, but having its outer surface slightly rugulose. From the same locality.

c. Shell coloured similarly to the two former, but with an external white epidermis disposed in slightly interrupted spiral bands. Found on the leaves of trees in Tayabas, in the province of Tayabas, Island of Luzon.

d. Shell light brown, with a dark-coloured antesutural band, and very dark columellar band; external white epidermis disposed as the last. From the same locality.

e. Shell brown, not banded, with the white external epidermis disposed in irregular and interrupted lines, nearly following the direction of the lines of growth, but increasing in width so as to form an interrupted band at the circumference of the shell. Found on the leaves of small trees on the island of Capul.

f. Shell pale brownish yellow, with the white external epidermis similarly disposed, but forming two rather broader and less interrupted bands, one at the circumference and the other anterior. From the same locality.

g. Shell white, with alternating light and dark brown bands; antesutural line and band round the columella dark brown. From Ligao, South Camarenis, island of Luzon: found on the leaves of trees.

h. Similar to *g*, but the alternating bands are dark brown and black; the antesutural line and the band round the columella also are black. From Pasacao, South Camarenis: found on the leaves of trees.

i. Similar to the last, only destitute of the central brown band. From the same locality as *h*.

k. Shell white, with three brown bands; antesutural line and columellar band of the same colour. From Ligao.

l. Shell white, with two brown bands; antesutural line and columellar band of the same colour. From Ligao.

m. Shell white, with a single brown band at its circumference. From Ligao.

n. Shell white, with alternately very pale and dark brown bands; antesutural line and columellar band dark brown. From Ligao.

o. Shell very pale brown, with a very thin epidermis; two dark brown bands, the one before and the other behind the light brown circumferential band; antesutural line and columellar band dark brown. From Ligao.

p. Shell totally white. Also from Ligao.

Helix opalinus. *Hel. testa pyramidalis, conica, obtusa, hyalina, tenuis, albido-viridescens, lævis, nitida, striis incrementi tenuissimis solùm sculpta; anfractibus senis, subconvexis, ultimo anticè obtusè subcarinato; suturâ distinctâ, anticè lineâ albâ angustissimâ; aperturâ obliquâ, subrotundatâ, supernè basi ultimi anfractûs ferè planâ modificatâ; peritremate subreflexo, propè columellam subincrassato; columellâ albâ, subincurvâ, sulco subobsoleto circumdatâ.*

Long. 1·25, lat. 0·8.

Hab. supra folia fruticum propè St. Jaun, Provinciam Cagayan Insulæ Luzonicæ.

A remarkably delicate species, having nearly the form of *Helix pileus*; it is, however, narrower in proportion to its height, its volutions are less numerous, and rather more convex. This elegant species has the usual colour and semitransparency of the *Semi-Opal*, which, however, becomes rather greener towards the base.

Helix cincinnus. *Hel. testa ovato-pyramidalis, tenuis, lævis, plerùmque nitida, subhyalina; epidermide albo fuscoque variâ, haud nitidâ nonnunquam induta; spirâ elatiusculâ, obtusâ; anfractibus senis, convexiusculis, solùm striis incrementi tenuibus indutis; suturâ distinctâ; aperturâ subovali, posticè acuminatiusculâ, supernè basi anfractûs ultimi rotundatâ modificatâ, sinistrorsùm sinuatâ; peritremate angusto, reflexo; columellâ albâ, anticè perobliquè subtruncatâ.*

Long. 1·8, lat. 1·1.

Hab. supra folia arborum ad Insulas Philippinas.

Another very variable species, particularly in its colouring and in the characters dependent upon its epidermis. Numerous, however, as its varieties are, and abundant as the species is, it does not appear to have been described either by Lamarck or De Férussac; indeed, I have not been able to find any species nearly approaching it, except *Helix ventricosa*, De Fér., which is figured in Chemn. vol. ix. f. 1007, 1008, and which somewhat resembles the banded variety of our shell. The following varieties have been brought by Mr. Cuming:—

a. Shell white, last volution pale green, which is darker in its anterior part. From the island of Rumblon.

b. The same as *a*, but having a dark brown band surrounding the columella. On some specimens of this variety the remains of a dark brown epidermis is to be seen about the anterior part of the last volution. From the island of Burias.

c. Shell white, with a pink band surrounding the columella, and scattered remains of a dark brown epidermis on the last volution. From Temple Island.

d. Shell white, with a dark brown band surrounding the columella, and scattered remains of a dark brown epidermis on the last volution. From the island of Burias.

e. Shell rose-colour, with scattered remains of a dark brown epidermis about the anterior part of the last volution. From Temple Island.

f. Shell red-brown, with a dark brown band surrounding the columella, and scattered remains of a dark brown epidermis about the anterior part of the last volution. From Temple Island.

g. Shell light red-brown, with a dark brown band surrounding the columella, and mottled with a nearly white, hydrophanous and a dark brown epidermis, which becomes altogether darker coloured toward the anterior part of the last volution. From the island of Burias.

h. Shell pink, epidermis as in *g.* From the island of Burias.

i. Shell white, with the dark brown columellar band and epidermis as in *g.* From the island of Burias.

k. Shell white, very pale greenish toward the anterior part of the last volution, with a broad dark brown columellar band, a narrow brown band at the circumference of the shell, and a pale antesutural brown band. From the island of Burias.

l. Coloured as *k*, but with broader and darker bands. From the same locality.

BULINUS OVOIDEUS, Brug. *Bul. testa ovato-oblonga, ovoidea, alba, lævis, striis incrementi exilissimis obliquis solùm sculpta, zonis nigris variis plerumque ornata; anfractibus quinque subventricosis, ultimo spiram ferè duplo longiori, aperturâ subovatâ, posticè subacuminatâ, intùs albâ, zonas exhibentibus; peritremate reflexo, albo; columellâ rectiusculâ, labio columellari subincrassato, anticè reflexo, ad labium externum adjuncto.*

Hab. ad insulam Ticao Philippinarum.

This species has been inadvertently figured in the 'Conchological Illustrations' under the name of *Luzonicus*, having previously been figured by De Férussac in his 'Hist. Nat. des Mollusques terrestres et fluviatiles,' tab. 112. f. 5, 6, and described in the 'Encycl. Méthod., by Bruguière* under the name of *ovoideus*, which name must of course be retained. Bruguière's specimen was quite white; those figured by Lister and De Férussac had a single dark band. Mr. Cuming has brought the following varieties:—

a. White, the anterior part of the first three volutions light brown. From the island of Masbate, on leaves of trees.

b. White, with three broad brown bands close behind the suture.

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* Hist. Nat. des Vers, tome vi. p. 335.

c. The same as the last, with an additional black band in front of the postsutural band.

d. White, with a narrow brown band behind the suture.

e. Brownish white, with perfectly white antesutural band, and three very broad dark brown bands.

f. White, with two dark brown bands, both anterior to the circumference of the shell.

g. White, with a single dark brown band. This is the variety that has been figured in 'Conch. Illustr.,' Bulinus, f. 53, under the name of *B. Luzonicus*; it is also given in Guérin's 'Magazin de Conchyliologie' (1838), tab. 116. f. 2. under the name of *B. Costerii*: of course both these names must be abandoned in favour of the older name of Bruguière.

h. Entirely white. This variety is of smaller size than most of the others.

i. Apex reddish brown, ground-colour white; anterior part of the last volution pale brown, with three dark brown bands.

k. Apex white or pale reddish, antesutural band white; then two broad dark brown bands, nearly confluent; then a lighter brown band, sometimes nearly white; then a broad dark brown band; and finally, the circumference of the columella white.

l. White, with two dark brown bands in front, and a very narrow light brown band behind the circumference.

HELIX ALBAIENSIS. *Hel. testa subglobosa, depressiuscula, tenuis, lævis, alba, plerumque fusco-zonata, lineis incrementi tenuissimis solùm insculpta; spirâ subdepressâ, anfractibus 3½ subconvexis, ultimo maximo inflato; aperturâ extùs rotundatâ; peritremate albo, rotundato, reflexo, mediocri; intùs sinuatâ, sinu profundo, anticè per columellam, latiusculam, albam, posticè per modificationem anfractûs penultimi efformato; suturâ subinconspicuâ.*

Long. 1·2; lat. 1·5 poll.

Hab. supra folia fruticum apud Matnog, Provinciam Albaiensem insulæ Luzonicæ.

The following three varieties of this new species have been discovered by Mr. Cuming, viz.:—

a. White, with a little light brown at the apex and outside the columellar lip.

b. White, with two brown bands, one anterior to, and the other posterior to, the circumference of the shell; a dark brown antesutural line and a dark brown band outside the columellar lip.

c. The same as *b*, with the two brown bands nearly meeting over the circumference.

HELIX AURATA. *Hel. testa depressiusculo-subglobosa, tenuis, lævis, subnitens, flava, apice roseo; spirâ rotundato depressâ; anfractibus 3½ convexis, ultimo maximo; aperturâ semilunari, latâ, posticè basi ultimi anfractûs gibbosâ modificatâ; labio externo posticè paululùm coarctato, deinde subreflexo, albo, crassiori, rotundato; columellâ albâ, latâ, subincrassatâ; suturâ distinctâ.*

Long. 0·9; lat. 1·4 poll.

Hab. in foliis arborum ad St. Jaun Provinciam Cagayan Insulæ Luzonicæ Philippinarum.

Two varieties of this remarkable and beautiful species have been found by Mr. Cuming. The similarity of the young shell to *Helix picta* is very great: the full-grown shell differs, however, very much in shape from that species. Both varieties are remarkable for a bright red apex.

Var. *a.* Bright yellow, with a scarlet band placed just before the suture, beginning at the second volution and increasing in breadth with the growth of the shell: this var. has also a blue line on the outside a little in front of the scarlet band, which is black within.

Var. *b.* Upper half of the shell bright yellow; lower half white.

HELIX ROISSYANA, De F. *Hel. testa subglobosa, crassiuscula, lævis, coloribus plerumque albo, nigroque fasciata, et ut assolent epidermide obscurâ, haud nitente, obtecta; spirâ obtusissimâ; anfractibus* 4½, *rotundatis, subventricosis, ultimo maximo, cæteris quadruplo longiori; suturâ distinctâ; aperturâ sublunari, intùs albâ, labii externi margine arctè revolutâ, nigrâ, columellari albâ; columellâ rectiusculâ, planulatâ, albâ s. albicante.*

HELIX ROISSYANA, De Fér. 'Hist. Nat. générale et particulière des Mollusques terrestres et fluviatiles,' tab. 104. f. 2, 3.

Long. 1·2; lat. 1·4 poll.

Hab. propè Puerto Galero ad Insulam Mindoro, Philippinarum.

Five principal varieties of this species are remarkable; one alone has been represented, though not described by De Férussac. If the colours alone were to be depended upon as specific characters, two of these varieties would be considered distinct species. Deshayes has omitted to mention or to describe this species in his second edition of Lamarck (Anim. sans Vert.); I am therefore much gratified by having the opportunity afforded me of pointing out its characters and making known its several varieties.

Var. *a.* White, with a yellowish epidermis, a very dark brown, almost black, antesutural band, and a rather broad, black band surrounding the columella.

Var. *b.* The same as the last, with an additional broad intermediate anterior black band.

Var. *c.* Similar to the last, with the addition of a black band anterior to the sutural band, and with the anterior intermediate band much wider.

Varieties *a, b, c,* are all found at Puerto Galero.

Var. *d.* Nearly black all over, and only showing more or less distinct remains of white on the three first volutions; epidermis very thin and nearly colourless. Found at Calapan, in the Island of Mindoro.

Var. *e.* Of a dark chestnut-brown colour, with the same arrangement of colour as the last, but covered with a thickish, brown, opake, hydrophanous epidermis. From Puerto Galero.

I am compelled to regard as a variety of this species a shell which Mr. Cuming has brought from the island of Tablas, whose spire is more elevated, having nearly five volutions; it is of a dark colour, with more or less distinct lighter bands, and the same thickish, brown, opake, hydrophanous epidermis as the last: its columella, and the columellar lip, are of a brownish purple. I designate this as Var. *f*.

The figure given by De Férussac represents a rather dwarf variety, of which I have seen a specimen in Mr. Metcalfe's collection.

HELIX (COCHLOGENA, De F.) IGNOBILIS. *Hel. testa subgloboso-conica, tenuis, albicans, subhyalina, fasciis duabus castaneis ornata; spirâ subconoideâ; anfractibus* 4½, *lævibus, nitidis, subplanulatis, striis incrementi tenuissimis solùm sculptis; suturâ distinctâ; aperturâ subrotundâ, intùs albâ, fasciis duabus conspicuis; peritremate reflexo, rotundato, albo; columellâ rectiusculâ continuo.*

Long. 1·2; lat. 1·2 poll.

Hab. ad insulam Romblon, Philippinarum.

The subconical form of the spire, with very slightly ventricose volutions, distinguish this from all its most nearly-related species. When young it is slightly carinated. The anterior part of the last volution is usually coloured of a pale yellowish tint.

HELIX (COCHLOGENA, De F.) TENERA. *Hel. testa subglobosa, tenuis, alba, subhyalina; spirâ subacuminatâ, obtusâ; anfractibus* 4½, *lævibus, subventricosis, striis incrementi tenuissimis solùm insculptis, ultimo fasciâ angustâ, viridi picto; suturâ distinctâ; aperturâ subrotundâ, intùs albâ fasciâ solitariâ subinconspicuâ; peritremate tenui, reflexo, albo; columellâ latiusculâ, rectiusculâ, albâ, extùs anticè subangulatâ.*

Long. 1; lat. 1 poll.

Hab. propè Mansalai ad insulam Mindoro, Philippinarum.

Var. b. *fasciis duabus castaneo-nigris.*

Nearly related to the last (*H. ignobilis*): it may be distinguished by being rather smaller, by having its volutions rather more convex, its peritreme thinner, its columella straighter, and angular in front externally. A variety occurs with two dark brown, nearly black, bands, the one above and the other below the ordinary green band. The posterior of these is seen nearly up to the apex.

HELIX (COCHLOGENA, De F.) COLLODES. *Hel. testa subglobosa, tenuiuscula, nitida, alba; epidermide lutescente induta, apice roseo; spirâ subelatâ, obtusâ; anfractibus quinque, ventricosis, ultimo ad basin paululùm planulato; suturâ distinctâ, anticè castaneâ; aperturâ subrotundâ, intùs albâ; peritremate reflexo, nigricante; columellâ albicante, paululùm recurvâ.*

Long. 1·2; lat. 1·2 poll.

Hab. ad insulam Tablas, Philippinarum.

I have named this species *collodes*, in consequence of the remarkable appearance of the epidermis, like a coat of glue covering all the outer surface except the apex. In form this species is much like *H. ignobilis*; its spire is not, however, so much acuminated, and the apex is much more obtuse than in that species: its peritreme, moreover, is thinner, and although reflected, it is not rounded as in that species.

HELIX (COCHLOSTYLA, De F.) ORBITULUS. *Hel. testa subglobosa, crassiuscula, lævi, obliquè lineis incrementi tenerrimè insculpta; anfractibus* 4½ *ad* 5, *subventricosis, ultimo maximo, ventricosiori; suturâ distinctâ, anticè albâ; aperturâ subrotundâ, intùs albâ; peritremate latiusculo, rotundato, reflexo, albo; columellâ albâ, rectiusculâ, paululùm inflexâ.*

Long. 1·1; lat. 1·1 poll.

Hab. propè Mansalai ad insulam Mindoro, Philippinarum.

Var. *a.* Shell nearly globular; spire very obtuse, white, base dull yellowish; two spiral green bands commence at about the third volution, and increase in width and strength of colour until they reach the back of the outer lip; of these the lower is by much the broader.

Var. *b.* Shell *oblong*, and coloured in the same manner as the last; but the last volution is green above (the anterior side of the suture being always pure white), increasing in intensity from its commencement: in this variety the dull yellowish colour of the anterior or basal part of the last volution is much deeper than in var. *a.*

Var. *c.* Shell larger; its volutions rather more ventricose, similar to the last in colouring, but having two additional dark brown, nearly black bands, which are distinctly seen within. This is by far the largest and handsomest variety of the three.

Note.—" M. Valenciennes informs me that this species was brought in 1830 by the officers of the "Favourite," and placed in the galleries of the Museum of Paris, under the name of *H. chlorogrammica*, Val.; but as it does not appear that he has published either the name or any description of the species, I continue to use the name which I have given it above."

HELIX (COCHLOSTYLA, De F.) OOMORPHA. *Hel. testa ovato-oblonga, crassa, obscura, spiraliter tenuitèr substriata, lineis incrementi decussata; anfractibus quinque subventricosis; suturâ distinctâ; aperturâ suborbiculari, intùs obscurâ; peritremate ferè continuo, albo, reflexo, rotundato; columellâ subundatâ, labio columellari extenso, ad umbilicum fere velato; umbilico mediocri.*

Long. 1·1; lat. 0·7 poll.

Hab. ad insulam Tablas dictam, Philippinarum.

Mr. Cuming has obtained only a single specimen of this species: it is very different from all the others, its peritreme being continuous nearly all round, the only interruption being about a seventh where it is intersected by the last volution; colour dull light brown, with a dark brown band in front of the suture; the greater part of the last volution dark brown, and having a light narrow band near the umbilicus in addition to the light band near the suture.

HELIX INCOMPTA. *Hel. testa ovata, tenuiuscula, obscura; epidermide fuscâ, haud nitente induta, obliquè tenuiter lineis incrementi striata; anfractibus quinque subconvexis, ultimo majori; suturâ* *distinctâ, anticè posticèque fuscâ; aperturâ subrotundâ, posti[illegible] subacuminatâ; peritremate tenuiter reflexo, rotundato, anticè subtruncato, albo; columellâ rectâ, albâ, anticè subtruncatâ.*

Long. 1·1; lat. 0·66 poll.

Hab. ad insulam Tablas dictam, Philippinarum.

Nearly resembling the last in shape and in its dull surface, but differs in having no umbilicus, and in its peritreme not being nearly so continuous. The last volution has its suture brown, a brown band in the middle and another round the columella. A single specimen only was found.

HELIX STABILIS. *Hel. testa ovoidea, solidiuscula, lævis, nitidiuscula, alba; anfractibus senis, paululùm convexis, anticè castaneis, nigro-fasciatis, obliquè lineis incrementi striatis; aperturâ obliquâ, subovatâ, intùs albâ, peristomate albo, incrassato, rotundato, anticè subeffuso; columellâ albâ, inconspicuâ, labio columellari paululùm expanso.*

Long. 1·35; lat. 0·8 poll.

A species which in general appearance bears some resemblance to *Bulinus ovoideus* of Brug. and De F., tab. 112. f. 5, 6. (the same as *B. Luzonicus*, 'Conch. Illustr.' Bulinus, f. 53.); this species, however, increases more rapidly toward the anterior part; it has, moreover, one more volution. The aperture is placed very obliquely, so that the shell stands firmly when placed upon it. The dark burnt colour of the anterior part of this shell is seen in every volution in the form of a spiral postsutural band. It has a thick light-coloured epidermis, of which some traces have not been entirely effaced.—G.B.S.

A curious variety of the Dog, from Malta, presented by Her Royal Highness the Duchess of Kent, was exhibited.

September 8, 1840.

James Whishaw, Esq., in the Chair.

An extensive series of new species of the genus *Cardium* was exhibited by Mr. Cuming, and the following account by Mr. G. B. Sowerby, Jun., of their characters, was read.

Cardium Sinense, Conch. Illustr. f. 35. *Card. testâ rotundatâ, posticè subrostratâ paulò ringente, ad marginem subexpansâ, omninò (anticè præcipuè) minutissimè granulatâ, pallidè fulvâ; costis 23 validis, rotundatis, quarum 8 postremis angustioribus, posticè subangulatis, fimbriatis; margine dorsali inflato; ventrali internè fortissimè dentato.*

Long. 1·55; lat. 1; alt. 1·40 poll.

Hab. ad mare Sinense, et ad insulas Philippinas, invenit H. Cuming.

Slightly resembling *C. Asiaticum*, from which it is distinguished by having larger and fewer ribs, and a small fringe on the posterior ribs. Found in sandy mud.

Cardium striatulum, Conch. Illustr. f. 16. 45. *Card. testâ tenui, rotundatâ, posticè subrostratâ minutissimè radiatim striatâ; pallidè fulvâ rubro radiatim fasciatâ; intùs albâ, fasciis binis rubris radiatâ; striis postremis denticulatis; epidermide fuscâ.*

Long. 1· ; lat. 0·60; alt. 0·90 poll.

Hab. ad Australiam et ad Novam Zelandiam. G. Bennett legit.

The pink-striped bands which give so much brilliancy to this shell when in a young state, are scarcely to be traced in the older specimens. The doubt as to their identity, which this circumstance at first created, was only removed by the most careful comparison.

Cardium Australe, Conch. Illustr. f. 12. *Card. testâ obliquè ovatâ, tenui, albâ, purpureo-rubro fuscoque præcipuè ad umbones maculatâ, purpureo ad latera fasciatâ; umbonibus lævibus; lateribus marginibusque tenuissimè sulcatis; cicatrice ab apice ad marginem posticum decurrente.*

Long. 1·20; lat. 0·85; alt. 1·30 poll.

Hab. ad Australiam, et ad mare Sinense.

This species differs from *C. tenuicostatum* and *C. papyraceum* in its proportions, being longest from the apex to the ventral margin; and also from the latter in the narrowness of the posterior ribs, and in having a distinct groove on the posterior side. Since the application of the above name, specimens have been met with in Mr. Cuming's Collection, named *C. sauciatum* by Dr. Beck, who, however, to the best of our knowledge, has not published it.

Cardium ringiculum, Conch. Illustr. f. 11. *Card. testâ longitudinalitèr ovali, tenui, utrinque hiante; posticè elongatâ, subaspersâ; costis anterioribus angustis, inconspicuis; tribus centralibus latis, planulatis ad marginem valdè dentatis; decem postremis angustioribus, paulò elevatis, ad marginem dentatis.*

Var. *testâ pallidè flavidâ.*

Var. *testâ ad latus posticum rubro tinctâ.*

Hab. ad insulam Ceylon.

A pretty little species, differing from *C. bullatum* in the strongly toothed posterior margin.

Cardium Siculum, Conch. Illustr. f. 31. *Card. testâ tenui, subquadratâ, ventricosâ, anticè angustâ, posticè latâ, subangulatâ; albâ, fusco maculatâ; costis numerosis, planulatis, 5 anticis crenulatis; interstitiis angustis.*

Long. 0·50; lat. 0·40; alt. 0·45 poll.

Hab. ad mare Siculum.

Cardium Arcticum, Conch. Illustr. f. 26. *Card. testâ ovali compressâ, subæquilaterali; costis 27, angulatis, subcrenulatis; epidermide crassâ, olivaceo-fuscâ, ad umbones ætate erosâ; ligamento elongato; cardine dentibus centralibus obsoletis, lateribus distantibus.*

Long. 1·55; lat. 0·90; alt. 1·40 poll.

Hab. ad mare Arcticum.

Differing from *C. Gröenlandicum,* in having ribs, and from *C. Icelandicum,* in being less ventricose and in the ribs being angular.

Cardium paucicostatum, Conch. Illustr. f. 20. *Card. testâ rotundatâ, ventricosâ, subæquilaterali, tenui; albido-flavicante, fusco undatâ; costis* 16, *planulatis, lævibus, distantibus, tuberculis acutis in medio armatis; interstitiis planulatis.*

Long. 1·30; alt. 1·30; lat. 1 poll.

Hab. ad mare Adriaticum (Malta).

This species differs from *C. echinatum* in being comparatively smooth, and having very few ribs, with wide interstices.

Cardium multispinosum, Conch. Illustr. f. 38, 38 *a*. *Card. testâ rotundatâ, ventricosâ, tenui, posticè paulò hiante, pallidè fulvâ, ad margines roseâ, intùs albâ; costis* 33 *lævibus, utrinque angulatis; spinis numerosis, acutis; interstitiis granulatis, ad marginem elongatis; margine dorsali tumidâ.*

Long. 2·10; lat. 1·70; alt. 2·20 poll.

Hab. ad insulam Mindanao, Philippinarum. H. Cuming legit.

In shape and general appearance, this beautiful shell resembles *C. Asiaticum,* from which, however, it differs widely, in having small spines on the ribs instead of the fringe. Found in sandy mud, at 25 fathoms.

Cardium exasperatum, Conch. Illustr. f. 37. *Card. testâ ventri-*

cosâ, rotundato-subquadratâ, albâ, ad margines roseo-tinctâ; tenuiter sulcatâ; inter sulcos spinis numerosis acutis ornatâ.
Long. 1· ; lat. 0·70; alt. 0·95 poll.
Hab. ad oras Australiæ (Swan River).

An extremely delicate and beautifully wrought shell, and quite distinct from others of the group to which it belongs.

Cardium variegatum, Conch. Illustr. f. 57. *Card. testâ ovali, subventricosâ, roseâ, aurantiaco, rubro-fusco-albo-que maculatâ; costis 48, quarum anticis rotundatis, crenulatis; posterioribus valdè angulatis, lævibus; postremis subplanulatis, tuberculis obliquis ornatis.*
Long. 1·70; alt. 1·80; lat. 1·20 poll.
Hab. ad insulam Leyte, Philippinarum. H. Cuming legit.

The ribs are much more numerous and close than in *C. muricatum*, and *C. Radula* is described as having the ribs angular on both sides, which is not the case with this species.

Cardium Unicolor, Conch. Illustr. f. 29. 42. *Card. testâ ovali ventricosâ, posticè subelongatâ, paulò emarginatâ, albâ, purpureo obscurè maculatâ, epidermide fuscâ tenui indutâ; costis numerosis, anticis, mediis, et posterioribus rotundatis, minutè crenulatis; extremis planulatis.*
Long. 1·50; lat. 1·10; alt. 1·70 poll.
Hab. ad ins. Ticao. H. Cuming legit.

Found in sandy mud, at five fathoms. A slightly mottled variety is brought from the Brazils.

Cardium impolitum, Conch. Illustr. f. 6. 66. *Card. testâ crassâ, cuneiformi, snbæquilaterali ad marginem dorsalem angustiore, ad ventralem rotundatâ; albâ, fusco obscurè maculatâ, posticè purpureo-fasciatâ; costis 35 impolitis, subcrenulatis; epidermide fuscâ.*
Long. 1·50; lat. 1·10; alt. 1·90 poll.
Hab. ad mare Sinense.

Remarkable for its wedge-like, nearly equilateral shape.

Cardium oxygonum, Conch. Illustr. f. 9. *Card. testâ ovali, subventricosâ, ad umbones angustâ; albâ, rubro fuscoque maculatâ, intùs albâ; costis 35, quarum 18 anterioribus validis, acutangulatis, ad latera antica atque ad angulos crenulatis; deinde 9 posterioribus acutangulatis ad angulos crenatis, ad latera lævibus; extremis angustis, lævibus, tuberculis obliquis ornatis.*
Long. 1·20; lat. 0·90; alt. 1·40 poll.
Hab. ad mare Sinense.

This species resembles *C. maculosum* of Wood in form, but in sculpture it more nearly approaches *C. angulatum* of Lamarck, from which, however, it is distinguished by being narrower towards the umbones, less ventricose, and having the ribs more distinctly angulated.

Cardium subelongatum, Conch. Illustr. f. 61. *Card. testâ ovali, subventricosâ, elongatâ, crassâ, posticè paulò hiante; albâ, fusco rubroque maculatâ, epidermide flavicante indutâ; costis* 32, *quarum anticis biangulatis, crenulatis; mediis lævibus, biangulatis; posticis rotundatis, lævibus, tuberculis obliquis ornatis.*

Long. 1·85; lat. 1·40; alt. 2·35 poll.

Hab. ad Sanctæ Thomæ insulam (Ind. occidentalis).

The above name has been given, to indicate the near alliance between this species and the true *C. elongatum* of Brug., with which it has been confounded. Our shell resembles some of the figures to which Lamarck refers for his *C. marmoreum*, and which Bruguière quotes for *C. elongatum*. It is much longer and smoother than the former, and does not agree with the description. The true *C. elongatum* is described by Brug., from a specimen in the collection of M. de Lamarck, as an elongated, ventricose shell of 39 or 40 ribs, and attaining a large size. It seems to have been a matter of dispute between the two conchologists, whether the above-named species were identical. We were unable to meet with a shell agreeing with Bruguière's description, until the arrival of Mr. Cuming with fine specimens sufficiently characteristic to set the matter at rest. The present species has fewer ribs and is less ventricose.

Cardium enode, Conch. Illustr. f. 51. *Card. testâ ovali, ventricosâ, posticè subexpansâ, fortissimè dentatâ; pallidè fulvâ roseo fasciatâ, intùs albâ, sub umbonibus flavidâ, ad marginem purpureâ; costis* 38, *planulatis, anticis levitèr crenatis; interstitiis angustissimis.*

Long. 2·30; lat. 1·60; alt. 2·60 poll.

Hab. ad insulam Ceylon.

Much more spread than *C. elongatum*, with the ribs flatter, and terminating in very strong overwrapping teeth.

Cardium subrugosum, Conch. Illustr. f. 34. 71. *Card. testâ crassâ ovali ventricosâ, ætate posticè subacuminatâ; costis* 33, *quarum* 25 *anterioribus rotundatis, crenulatis; extremis lævibus vix elevatis; epidermide fuscâ.*

Var. *testâ albâ, purpureo maculatâ.*

Var. *testâ posticè albâ, anticè flavidâ.*

Long. 2·30; lat. 1·70; alt. 2·40 poll.

Hab. ad insulam Ceylon.

The ribs are not so deep as in *C. rugosum*, and the eight posterior ones are so little raised as to leave the surface nearly smooth.

Cardium alternatum, Conch. Illustr. f. 64. *Card. testâ obliquè ovali, compressâ, posticè subexpansâ, albâ, luteo vel fusco-flavescente fasciato-maculatâ; epidermide fusco indutâ; costis* 32, *anticis crenulatis, subangulatis; deindè posterioribus angulatis anticè lævibus; extremis muricatis; interstitiis convexis, utrinque sulcatis.*

Long. 2·40; lat. 1·30; alt. 2·60 poll.

Hab. Ticao, Philippinarum. H. Cuming legit.

A beautiful pale-coloured specimen of this species has existed for some time in the well-selected cabinet of Miss Saul, who, however, possesses no information as to its locality. With this we have been supplied by Mr. Cuming, who collected some richly coloured individuals from the above-mentioned island: they were found in coral sand, on reefs, at low water.

Cardium attenuatum. *Card. testâ lævi, cuneiformi, compressâ, obliquè elongatâ, posticè subcomplanatâ, omninò obscurè striatâ, ad marginem dentatâ; flavâ, rubro maculatâ, maculis posterioribus validis; intus albâ.*

Long. 1·80; lat. 1·20; alt. 2·60 poll.

Hab. ad insulam Ceylon.

A good figure of this species is found in Wood's 'General Conchology,' accompanied by the following erroneous statements: first, that it is *C. biradiatum* of Brug.; and second, that *C. biradiatum* of Brug. is only a variety of the British species (*C. serratum*), which is improperly named *C. lævigatum* by him and some other authors. From the apex to the ventral margin, it measures longer in proportion than any other species.

Cardium Elenense, Conch. Illustr. f. 58. *Card. testâ tenui, lævi, ovali, posticè subacuminatâ pallidè fulvâ, fusco et purpureo minutè maculatâ, intùs fuscâ rubro fasciatâ; umbonibus inconspicuis, purpureo maculatis.*

Long. 0·75; lat. 0·50; alt. 0·75 poll.

Hab. ad Sanctam Elenam. H. Cuming legit.

Very nearly resembling *C. Brasilianum,* but not coloured in radiating lines, as in that species, and not so much elongated at the posterior ventral margin. Found in sandy mud, at seven fathoms.

Cardium lyratum, Conch. Illustr. f. 40. *Card. testâ ventricosâ, rotundatâ, subæquilaterali, pallidè fulvâ, epidermide rubro-purpureâ indutâ, intùs aureâ; anticè decussatim plicatâ; costis numerosis; anticis tenuissimis; mediis validioribus; posterioribus distantibus, angulatis.*

Long. 1·70; lat. 1·40; alt. 1·70 poll.

Hab. Dumaguete, ins. Negroes, Philippinarum.

The *C. Æolicum* of Born (*C. pectinatum,* Linn., according to Brug.) has a space on the posterior side of the shell entirely free from ribs in either direction. Bruguière describes it as characterised by "trois faces distinctes," of which the first (*the posterior*) is "lisse, sans côtes ni striés," and the figures in Chemnitz represent the same peculiarity. In the shell before us, the whole of the posterior side is covered with radiating ribs, no space being left smooth. In other respects it exactly resembles the "Janus" celebrated by ancient naturalists, and it is now almost as frequently met with in cabinets. The difference between the two species has been long observed, although they have not hitherto been separately described. Mr. Cuming has taken specimens of this species in sandy mud, at the depth of seventeen fathoms.

Cardium parvum, Conch. Illustr. f. 33. *Card. testâ ovali, subquadratâ, posticè subangulatâ, anticè rotundatâ, pallidè fulvâ, fusco rubescente angulatim maculatâ ; costis numerosis, subplanulatis ; sulcis angustis.*
Long. 0·50 ; lat. 0·40 ; alt. 0·43 poll.
Hab. ——— ?

Cardium fornicatum, Conch. Illustr. f. 50. *Card. testâ subquadratâ, posticè angulatâ, anticè rotundatâ ; albâ, purpureo-maculatâ, intùs aurantiacâ, ad margines purpureo-rufescente maculatâ : costis 35, quarum anteriorum 23 biangulatis, imbricatis, ad latera minutissimè spinoso-crenulatis.*
Long. 1· ; lat. 0·75 ; alt. 1· poll.
Hab. ——— ? Mus. F. J. Stainforth.

A very beautiful shell, in some respects resembling *C. medium*, but not so angular, and having the ribs richly ornamented by vaulted imbrications in the centre, and very minute crenulations raised into points at the sides. Unfortunately, we possess no information respecting the locality.

Cardium imbricatum, Conch. Illustr. f. 48. *Card. testâ crassâ, ventricosâ, anticè rotundatâ, posticè subquadratâ, angulatâ ; albâ, intus aurantiacâ, purpureo maculatâ : costis 28, quarum 19 anterioribus valdè imbricatis, postremis sublævibus, subangulatis ; imbricatis propè umbones, angulatis, fornicatis, propè marginem ventralem obtusis.*
Long. 1·20 ; lat. 1·05 ; alt. 1·30 poll.
Hab. ad oras Australiæ (Swan River).

Like *C. medium* in general form, but having vaulted imbrications on the ribs. These are much thicker and larger than in *C. fornicatum*, and the sides of the ribs are not crenulated as in that species.

Cardium subretusum, Conch. Illustr. f. 24. *Card. testâ albâ, obliquè subquadratâ, ventricosâ, posticè subcarinatâ, acuminatâ, anticè subrotundatâ ; post angulum complanatâ, levitèr sulcatâ ; costis ante angulum sex, tuberculatis ; interstitiis punctatis ; ante umbones cavernulâ cordiformi, intùs levitèr callosâ.*
Long. 0·90 ; lat. 1·20 ; alt. 1·30 poll.
Hab.

Thus we have three species presenting the character in common, of having a callosity within a heart-shaped cavity, close under the *umbones*, namely, the true *C. retusum* ; the var. " (2.) testâ punctis sanguineis pictâ" of Lam., which has been named *C. auricula* by Forskäll, and the present species, which resembles the original *C. retusum* in general appearance, but it is more elongated and smoother behind the angle, the cavity is not so deep, and the callosity is more strongly marked.

Cardium fragile, Conch. Illustr. f. 68. *Card. testâ rotundatâ, tenui, lævi, subequilaterâ, posticè paulò inflatâ, albâ, fusco-lineatâ, epidermide fulvâ indutâ; intùs albâ ad marginem rubescente; ad umbones flavâ; margine levitèr sulcato.*

Long. 1·05; lat. 0·65; alt. 1· poll.

The only specimen at present known is in the collection of the Rev. F. J. Stainforth. We have no information as to its locality.

Cardium foveolatum, Conch. Illustr. f. 65. *Card. testâ subrotundato-ovali, compressâ, albâ, costis 43, quarum 25 anterioribus rotundatis, crenulatis, deinde posterioribus 10 lævibus, subangulatis, extremis concavis, ad latera crenulatis.*

Long. 1·45; lat. 0·90; alt. 1·55 poll.

Hab. ad oras Australiæ (Swan River).

The last ribs on the posterior side are hollow, with crenulations crossing them so as to form little pits. This species belongs to the same section as *C. muricatum*, but it is much flatter and has a greater number of ribs.

Mr. Gould then read a paper on that most singular and anomalous bird, the Brush Turkey (*Talegalla Lathami*) of New South Wales. The author began by giving the opinions of various ornithologists as regards its affinities, and especially quotes Mr. Swainson's account, in which that author attempts to prove, that the bird in question is a vulture. Mr. Gould proceeded to detail, from his own observations, some interesting facts connected with its habits. The most remarkable circumstance connected with the bird is, that it does not hatch its own eggs, but employs for that purpose similar means to those now in use for artificial incubation. For some weeks prior to the period of laying, the Brush Turkey collects together an immense mass of vegetable matter, varying from two to four cartloads, with which it forms a pyramidal heap; in this heap it plants its eggs, about eighteen inches deep and from nine to twelve inches apart. The eggs, which are always placed with the large end upwards, being carefully covered, are then left to hatch by the heat engendered by the decomposition of the surrounding matter. The heaps are formed by the labours of several pairs of birds, and frequently contain as many eggs as would fill a bucket. The eggs are white, about three inches and three quarters long by two and a half in diameter, and, having an excellent flavour, are eagerly sought after. A specimen of the Brush Turkey, which Mr. Gould had an opportunity of observing in Mr. MacLeay's garden at Sydney, had formed a heap in a shrubbery similar to that which it would have made in its native woods. Around and over this heap the bird was seen to strut in the same way as the domestic cock; at the same time frequently uttering a clucking noise. The flesh is of a pale salmon colour, juicy and tender. After all he had seen of the bird in a state of nature, he had no hesitation in assigning it a place among the Gallinaceæ, among which it has a nearer alliance to *Cracidæ* than to any other group; at all events, it is in no way allied to the *Vulturidæ*, and is equally distant from *Menura,* with which it has been classed by some writers. Mr. Gould's paper was illustrated by five skins, an egg, and also a skeleton of the bird.

A skeleton of the *Talegalla* was exhibited, and Prof. Owen drew attention to its peculiarities.

"On comparing the osteology of the *Talegalla* with that of other birds," says Prof. Owen, "it exhibits all the essential modifications which characterise the Gallinaceous type, and among the Rasores it most nearly resembles the genera *Penelope* and *Crax.*

"In all the main points the skeletons of these birds agree; their differences are those of proportion only; whereas in the Raptores, and especially in the *Vulturidæ,* the following important differences present themselves. The spines of the dorsal vertebræ are detached; the upper transverse processes of the sacrum are separated by oblique elliptical vacuities; the plough-share bone, which terminates the coccyx, has double the relative vertical extent; the cervical vertebræ are shorter and broader; twice the number of the ribs, as compared with *Talegalla,* give off vertical processes, and these are longer and stronger: but the most striking and decisive differences occur in the sternum; this important bone, in the *Talegalla,* very closely corresponds with that of the two Gallinaceous genera above mentioned; the chief difference occurs in the greater breadth which separates the costal from the external posterior notch. In the Vultures the contiguous margin of the sternum forms part of the same nearly straight line with the rest of the lateral margin of the sternum behind it. In the *Cathartes,* which has the least complete sternum in the tribe of *Raptores,* to which some Quinarian Zoologists have assigned the *Talegalla,* there is a shallow notch and a small foramen in each half of the posterior margin of the sternum; the whole sternum is broader and more convex; the coracoid grooves, and the corresponding extremities of the bones adapted to them, have twice the breadth of those in the *Talegalla.* The *furculum* presents more than six times the thickness of that bone in the *Talegalla* and allied *Gallinacea*; its space is wider, and its superior extremities much more recurved. Equally striking are the differences which the bones of the wing present: in *Cathartes Aurea,* in which the costal and sacral regions of the vertebral column measure five inches, the length of the humerus is five inches and a half, that of the ulna is six inches eight lines, and the bones of the hand are nearly six inches in length: the strength of all these bones is proportionate to their length. The produced angle of the lower jaw is a character which is most conspicuous in the Gallinaceous birds, in some of the species of which, as in the Wood-grouse, it is excessive. Now this process is altogether wanting in the Raptorial birds, and consequently in the *Vulturidæ*; its presence in the *Talegalla* (where its form and size closely agree with those in *Penelope* and *Crax*) coincides with the decisive Gallinaceous characters which are pointed out in the sternum, vertebral column, and bones of the anterior extremity.

"The presence of the *broncho-tracheales,* which alter the length and tension of the bronchial tubes, widen the lateral diameter of the lower larynx, and influence its position, coincides with the observations which Mr. Gould has made respecting the voice of the *Talegalla*; and at the same time establishes another important structural difference between this bird and the *Vulturidæ*, which are precisely those Raptorial birds in which there are no true vocal muscles.

"From all the *Raptores* the *Talegalla* essentially differs, in its gizzard and elongated cæca: in the one we have all the characters of the Gallinaceous structure of that important part of the digestive system: in the form and proportions of the lower appendages—the cæca, the *Talegalla* most closely corresponds with the genera *Crax* and *Penelope*."

Mr. Gould then exhibited some new species of birds about to be figured in the forthcoming part of his work on the "Birds of Australia;" and characterised a new and beautiful *Cinclosoma*, from the belts of the Murray, as

CINCLOSOMA CASTANOTUS. *Cincl. lineâ albâ à mandibulæ inferioris basi per genas excurrente: gulâ pectoreque nigris; humeris et uropygio castaneis.*

Total length, 9 inches; bill, 1; wing, $4\frac{1}{4}$; tail, $4\frac{1}{2}$; tarsi, $1\frac{1}{4}$.

A new Halcyon, as

HALCYON PYRRHOPYGIA. *Hal. plumis capitis viridibus, angustè albo marginatis; humeris tectricibusque alarum majoribus cæruleis, uropygio, tectricibusque caudæ flavescenti-rubris.*

Crown of the head dull green, intermingled with white, giving it a striated appearance; a broad black stripe commences at the base of the bill, passes through the eye, and encircles the back of the head; upper part of the back and scapularies green; remainder of the wings bluish green; lower part of the back, rump, and upper tail coverts red; tail green, tinged with blue; throat, a broad collar encircling the back of the neck, and all the under surface white; bill black, the base of the lower mandible flesh white; irides blackish brown; feet dark olive brown.

Total length, unc. 8; bill, 2; wing, 4; tail, $2\frac{1}{2}$; tarsi, $\frac{1}{2}$.

Hab. Interior of New South Wales.

A new species of *Rhipidura*, which has hitherto been confounded with the *Motacilla flabellifera* of Latham, Mr. Gould proposed to characterise as

RHIPIDURA ALBISCAPA. *Rhi. nigrescenti-fusca; rectricibus caudæ ad apices, et per scapos albis.*

All the upper surface, ear-coverts, and a band across the chest, sooty-black, slightly tinged with olive, the tail and crown of the head and pectoral band being rather the darkest; stripe over the eye, lunar-shaped mark behind the eye, throat, tips of the wing coverts, margins of the secondaries, shafts, outer webs and tips of all but the two middle tail feathers, white; under surface buff; eyes black; bill and feet brownish black.

Total length, 6 inches; bill, $\frac{3}{8}$; wing, 3; tail, $3\frac{1}{2}$; tarsi, $\frac{5}{8}$.
Hab. Van Diemen's Land and the southern coast of Australia.

A new and highly interesting Pigeon as

Columba (Peristera) histrionica. *Col. capite nigro; fronte, spatio circum plumas auriculares necnon notâ semilunari apud gulam albis; corpore supernè e cinnamomino fusco; subtùs cæru-lescenti-cinereo.*

Forehead, a stripe from behind the eye forming a circle round the ear coverts, and a crescent-shaped mark across the throat, snow-white; the remainder of the head, throat and ear coverts, jet black; all the upper surface, wing coverts, flanks, and two centre tail feathers, deep cinnamon brown; edge of the shoulder dull white; spurious wing bluish grey, slightly margined with white; primaries brownish grey, margined on their outer webs with rufous, at the base of the inner web largely marked with the same, forming a conspicuous patch on the under surface of the wing; and with an oval spot of white at the tip of each feather; secondaries by a beautiful band of deep crimson-bronze on the outer webs near the tip; lateral tail feathers bluish gray at the base, passing into black toward the extremity, which is white; breast and centre of the abdomen bluish gray; under tail coverts light buff; nostrils and bill black; irides dark brown; frontal scales of the legs and feet lilac-red; hind part of the legs flesh-red.

Total length, $10\frac{1}{2}$ inches; bill, 1; wing, 8; tail, $3\frac{1}{2}$; tarsus, 1.
Hab. Plains of interior of Australia.

And a Rasorial bird of an entirely new form, about half the size of a Quail, and which, were it not for the presence of a hind toe, might be taken for a diminutive bustard.

Mr. Gould proposed to make it the type of a new genus, with the following appellation and characters:

Genus Pedionomus.

Gen. Char.—*Rostrum* tàm longum qùam caput, apicem versus compressum, ferè rectum, naribus valdè elongatis, in foveâ basali positis. *Alæ* valdè concavæ, remigibus primo, secundo, et tertio, inter se fère æqualibus, remigibus tertiariis perlongis, et primarios transeuntibus. *Tibiæ* super suffraginem nudæ. *Tarsi* mediocritèr elongati, scutis undiquè tecti, his, reticulis minutis, sejunctis. *Digiti* quatuor; horum posticus, debilis, et apud partem internam tarsi, sursùm positus.

Pedionomus torquatus. *Ped. vertice et pectore rufis, singulis plumis prope apicem lunulâ nigrâ notatis; collari lato, albo, crebrè maculis nigris guttato.*

Crown of the head brown speckled with black, sides of the head and the neck light buff speckled with black; neck surrounded by a broad band of white thickly spotted with black; all the upper surface reddish brown, each feather having several narrow, transverse, crescent-shaped marks in the centre and margined with buff; tail buff, crossed by numerous narrow brown bars; centre of the breast rufous, the remainder of the under surface buff; the feathers on the breast marked in a similar manner to those on the upper surface, and the flanks with large irregular spots of black; irides straw-yellow; bill yellow, passing into black at the point; feet greenish-yellow.

Total length, 7 inches; bill, $\frac{3}{4}$; wing, $3\frac{5}{8}$; tail, $1\frac{3}{8}$; tarsi, $\frac{7}{8}$.

Hab. The plains of the interior of South Australia.

September 22, 1840.

William Yarrell, Esq., V.P., in the Chair.

The following paper was read, in which Mr. G. B. Sowerby proceeds with his descriptions of the new species of Shells collected by H. Cuming, Esq., in the Philippine Islands.

HELIX ILOCONENSIS. *H. testâ obovatâ, crassiusculâ, lævi, coloribus variis variè pictâ; spirâ elevatiusculâ, obtusâ; anfractibus quinque, rotundatis, ultimo maximo; aperturâ rotundato-subtrapezoidali, intùs albâ; peritremate lato, incrassato, rotundato, reflexo, albo; labio columellari lato, albo, subplanulato, posticè emarginato.* Long. 1·3, lat. 0·9, poll.

Hab. in foliis arborum prope Sanctum Nicolam, Provinciæ Ilioconis septentrionalis ad Insulam Luçon, Philippinarum.

The varieties of this species, in colour and size, are very numerous; many of them are remarkable for an apparent interruption of their growth, shown by a band of colour darker than the general ground-colour of the individual across the second, third, or fourth volution; the recommencement after which suspension is marked by an apparent want of colouring matter to produce the usual spiral bands.

The following is the enumeration of the varieties which have occurred:—

a. Apex reddish brown, softened down into a greenish yellow ground-colour, which becomes more intense, and is speckled with brown on the last volution, particularly toward the aperture; posterior edge of each volution brown, softened down with pink; circumference of the shell with a greenish brown narrow band behind a brownish pink band; columellar band and back of the lip reddish brown. From St. Nicolas.

b. Nearly similar to *a.*; anterior circumferential band yellowish. Found on Pandanus Palms at Curimao, in the province of North Ilocos.

c. Apex pale reddish brown; ground-colour greenish yellow, speckled on the last volution; antesutural band light reddish brown; posterior circumferential band greenish brown, anterior circumferential band pale yellow; columellar band rose-colour; back of the lip brownish red. From St. Nicolas.

d. Apex reddish brown; ground-colour grayish rose; antesutural band and back of the lip reddish brown; posterior circumferential band pale olive-brown, anterior circumferential band pinkish yellow; circumference of the *columella* rose softened into the ground-colour. From St. Nicolas.

e. Apex dark brown; ground-colour gray-brown; suture white or yellowish; antesutural band red-brown; circumferential band white at its commencement, but becoming yellowish, and yellowish pink upon the last volution; posterior circumferential band indistinct, olive-brown; circumference of the *columella* red-brown; back of the lip dull red. The lip of this variety has a slight reddish tinge. From St. Nicolas.

f. Apex brownish black; ground-colour yellowish olive-brown; posterior circumferential band darker; suture pale, yellowish, or nearly white; anterior circumferential band pale yellowish at its commencement, increasing in intensity until it is nearly lost in the ground-colour near the aperture; columellar band blackish, suffused with pinkish; back of the lip yellowish brown. From Sinait, in the province of South Ilocos.

g. Apex brownish black, softened down into the gray-brown ground-colour; sutural band yellow-brown; posterior circumferential band olive-brown; anterior circumferential band whitish at its commencement, then yellowish, and at length grayish; back of the lip yellow; border of the *columella* brownish yellow. From Sinait.

h. Nearly similar to *g*, but smaller, and the circumferential bands nearly obsolete toward the back of the aperture. From Sinait, in the province of South Ilocos.

i. Apex blackish, softened down into a pale greenish gray; suture white; antesutural band dull and pale yellow-brown; posterior circumferential band of the same colour, and very narrow; anterior circumferential band dull yellowish white; back of the lip pale yellow.

k. Apex pale reddish brown; ground-colour pale fawn-colour; sutural band rather obsolete, reddish; circumferential band yellowish white; columellar band rose-colour, and back of the lip duller; last volution speckled. From Saint Nicolas.

l. Apex pale reddish brown; ground-colour yellow; antesutural band yellow-brown, pink in front; a very narrow dull greenish band near the circumference; back of the lip brownish red; columellar band rose-colour. This is a small variety from Curimao, in the province of North Ilocos.

m. Apex and circumference of the *columella* rose-colour; ground-colour dull yellow, suffused at the posterior part of each volution and toward the mouth with pink; antesutural and circumferential bands yellow-brown. A very pretty small variety from Sinait, in the province of South Ilocos.

n. Apex pink; ground-colour yellow-brown, increasing in intensity, darker toward the suture; columellar circumference pink. A small, somewhat lengthened variety from near Sinait.

o. Apex nearly black, soon softened down to nearly colourless, and then gradually into the pale grayish green ground-colour; antesutural band rather indistinct, brownish yellow; posterior circumferential band brownish yellow, very slight and indistinct at its commencement, but becoming gradually more and more distinct: the reverse is the case with the anterior circumferential band, which is distinct and nearly white at its commencement, but becomes gradually darker, until it is nearly lost in the ground-colour; back of the lip dull yellow; last volution speckled. From Saint Nicolas.

p. Apex very pale pink; circumference of the *columella* rose-colour;

ground-colour pale yellow, darker towards the front; antesutural band yellowish brown. A small and very pale variety from Curimao.

q. Apex white; ground-colour pale yellow, darker toward the front; antesutural and circumferential bands yellow-brown. Another small variety from Curimao.

r. Colours the same as *q*, but altogether paler. This is a large variety, from St. Nicolas.

s. Apex white, softened down into a pale yellow ground-colour; antesutural band yellow-brown.

A paper by E. Lewis, Esq., entitled "Desultory Observations on Subjects having relation to Zoology," was also read.

The author in this paper comments on the different systems of classification, and proposes that the various groups of animals should be defined with more simplicity than they at present are; he is of opinion, that although the members of a group may resemble each other in many characters, yet one of these characters should be selected, and used for distinction; "and it is hoped," observes Mr. Lewis, "that divisions thus formed will be found practicable, precise and sufficient; because, as each is formed from a single common character, the necessity of admitting subfamilies and subgenera is obviated; for it is evident the necessity for forming those divisions has arisen from the family or genus from which they have been deducted having been formed from the notice and combination of too many particulars. It may be mentioned as a recommendation of the proposed method of using one character, as essential for distinction of divisions, that it has been in part virtually, if not expressly used, by many eminent zoologists. Linnæus makes use of the organs of manducation for generic distinctions in the class *Mammalia*, and in so doing is followed by most naturalists. The Rev. W. Kirby, in his enumeration of the characters of *Apis* and *Melitta*, mentions the form of the tongue as the one essential character." The cells of the wings has been selected by Jurine in the Hymenopterous insects; and numerous other instances of a single peculiarity having been selected for the definition of a group are mentioned by the author, who asks, "Will it not therefore be better, if only for the sake of uniformity and the advantage of fixing a character, which, from its singleness, can be easily retained in the memory, and therefore always be ready for application, to adopt the same plan throughout?

"The *Vertebrata* and *Invertebrata* may be divided into four stirps; the first will contain the *Hæmatherma* (Latr.), or warm-blooded animals, as the *Mammifera* and *Aves*, and the *Hæmacryma*, or cold-blooded animals, such as the Reptiles and Fishes. The *Invertebrata* may be divided into the *Cephalidea*, containing the Insects and Mollusca, or *Palliata* (Latr.), and the *Acephala* (Latr.), which last are the *Vermes Zoophyta* and *Infusoria* of Linnæus, or '*les Animaux Apathiques*' of Lamarck."

Mr. Gould exhibited a Drawing of the Brush Turkey of New South Wales.

October 13, 1840.

James Whishaw, Esq., in the Chair.

A paper by W. J. Broderip, Esq., was read. In this paper the author resumes his descriptions of the new species of shells collected by H. Cuming, Esq. in the Philippine Islands.

Bulinus Fulgetrum. *Bul. testâ ovato-pyramidali, anfractibus* 5 *subventricosis, ultimo longè maximo, labio et aperturâ ovatâ albis; columellâ callosâ basi subsinuatâ.*

Var. *a. Cinereo-flavescens strigis longitudinalibus albis, nunc rectis, nunc sinuatis, nunc angulatis pulcherrimè strigata.*
Hab. ad insulam Negros.
Legit H. Cuming in sylvis.

Var. *b. Castaneo-brunnea, lineis parvulis brevibus haud frequentibus a suturis albo-lineatis anfractûs ultimi et penultimi descendentibus.*
Hab. cum præcedente.
Legit H. Cuming.

Var. *c. Tota cinereo-fusca, obscurè et rarò albido-strigata, apice subrubro.*

The brown under covering appears to be overlaid with a dull pale ashy *epidermis*, which sometimes presents the appearance of oblique obscure stripes in the direction of the lines of growth. On the lower part of the penultimate whorl the brown and shining under covering is exposed, so as to produce a basal fillet. The sutural line of the last or body-whorl is obscure white.
Hab. ad insulam Guimaras.
Legit H. Cuming in sylvis.

Var. *d. Albida, strigis longitudinalibus sub-flavescentibus, nunc rectis, nunc sinuatis, nunc angulatis, ornata.*
Hab. cum præcedente.

In this variety the shining subflavescent under covering appears to be overlaid with a dull chalky-white *epidermis*, through intervals of which the lightning-like stripes of the ground-colour appear. A somewhat obscure deep brown stripe borders the outside of the *columella.*

Var. *e. Brunneo-flavescens, strigis vividè albis conspicua, fasciis suturalibus anfractuum superiorum rubro-brunneis submicantibus, fasciâ suturali anfractûs ultimi albo suturam versus limbatâ fasciâque submediâ haud micantibus.*
Hab. ad insulam Negros.
Legit H. Cuming in sylvis.

In this variety the white lightning-like stripes passing over the

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transverse red-brown bands of the body-whorl have a striking effect. A deep-brown stripe borders the outside of the *columella*.

Var. *f. Flavescens, strigis* (*in anfractu ultimo frequentibus*) *albis.*

Hab. cum præcedente.

On the penultimate whorl the rudimentary longitudinal stripes are but obscurely seen; on the body-whorl they gradually increase from lines to irregular stripes of a full white. A blackish stripe borders the *columella*.

Var. *g. Brunneo-flavescens albo latè strigata et albido-fucata.*

Hab. ad insulam Guimaras.

Legit H. Cuming in sylvis.

Var. *h. Flavescens, albo-strigata, fasciis suturalibus et fasciâ anfractûs ultimi transversâ subpurpureis.*

Hab. ad insulam Negros.

Legit H. Cuming in sylvis.

The white stripes passing over the sutural bands give them a tessellated appearance, but these lightning-like stripes are much more widened where they pass over the transverse band of the body-whorl, which is seen through the shell on looking at the aperture. A reddish brown stripe borders the *columella.*

Var. *i. Productior, subflava, fasciis suturalibus rubro-brunneis. strigis irregulariter longitudinalibus latis valdè angulatis albidis, subflavo-limbatis.*

Hab. in insulâ Pannay ad Ilo Ilo.

Legit H. Cuming in sylvis montanis, Igbaras dictis.

This mountain-variety, which is longer in proportion, is dashingly marked: in the intervals between the zig-zag stripes an ashy pellicle covers the ground-colour. A reddish stripe borders the *columella.*

Var. *k. Productior, subflava cinereo co-operta, fasciis suturalibus rubro-purpureis; fasciâ suturali et submediâ latis, obscuris; strigis longitudinalibus irregularibus, albis, sparsis.*

Hab. cum præcedente.

A purplish red stripe borders the *columella* of this curious variety, and the bands of the body-whorl may be seen faintly through the shell on looking into the aperture.

This beautiful and greatly varying species ranges from about 2 inches in length and 1¼ in breadth, to very nearly 2½ by 1⅘ inches.

They were all found by Mr. Cuming on the leaves of trees, and he informs me that they lay soft eggs. Variety *a* was most abundant, and the mountain-varieties *i* and *k* are the longest and largest.

Bulinus Pictor. *Bul. testâ ovato-productâ, anfractibus sex, ultimo cæteros æquante; aperturâ ovatâ, cæruleo-albente, labio rubro-brunneo limbato; columellâ graciliori subrectâ.*

Var. *a. Brunnea strigis longitudinalibus latis vividè albis picta.*

Hab. in insula Pannay.

Legit H. Cuming in sylvis.

This beautiful variety will remind the observer of the colouring of *Achatina Zebra.*

Var. *b. Albida, strigis longitudinalibus brunneis.*

Hab. cum præcedente.

Both varieties were found by Mr. Cuming at Dingle, in the province of Ilo Ilo.

The length ranges from about $2\frac{4}{8}$ by $1\frac{2}{8}$ inch to $2\frac{3}{8}$ inches in length, and 1 in breadth.

BULINUS NIMBOSUS. *Bul. testá productá, elongato-pyramidali, lineis incrementi striatá, anfractibus sex, gradatim majoribus, ultimo maximo sed haud valdè ventricoso, anticè subangulato, columellá subrectá, subgracili.*

Var. *a. Brunnea, strigis latis undulato-angulatis, ochraceo-albis nubilosa.*

Var. *b. Brunnea, sparsim lineis ochraceo-albis a lineá suturali præcipuè descendentibus picta; fasciá sub-basali nigricante obscuriore.*

Var. *c. testá totá brunneá.*

Hab. ad insulam Negros.

Legit H. Cuming in sylvis.

The throat of this species is bluish white, and the lip is bordered with dull pinky-brown.

The largest specimen which I have seen (var. *a.*) is about 3 inches long and $1\frac{1}{2}$ broad.

Var. *d. Subflava, epidermide quasi cretaceá, lineis angulatis subflavis inscriptá.* Long. 3 unc. circiter: lat. $1\frac{1}{2}$ unc.

Hab. ad Ilo Ilo insulæ Pannay.

Legit H. Cuming in sylvis.

Through the chalky *epidermis* which covers this shell, appear the irregular angulated lines of the light amber ground-colour. An old shell.

HELIX (COCHLOSTYLA) SARCINOSA. *Hel. testá ovato-rotundatá, subdiaphaná, productá, anfractibus $4\frac{1}{2}$ ventricosis, ultimo cæteros longè superante, lineis incrementi obliquis frequentissimè substriatá, columellá incrassatá, callosá, subrectá, aperturá albá.*

Var. *a. Ochraceo-alba fasciis frequentibus castaneo-nigris cincta, labii limbo subrosaceo.* Long. $2\frac{7}{8}$; lat. $2\frac{5}{8}$ unc.

Hab. in montibus Tanhay insulæ Negros.

Legit H. Cuming in sylvis.

Var. *b. Brunneo-virescens, fasciis subnigricantibus cincta, albido-ochraceo interruptè tessellato-maculata, labii limbo pallidè subrosaceo.*

Hab. ad insulam Negros.

Legit H. Cuming in sylvis.

The size of this variety is about the same as that of the last. Mr. Cuming found it on bamboos as well as on the leaves of trees.

Var. *c. Viridi-brunnea fasciis interruptis ochraceo-albis et nigro-brunneis alternis cincta, labii limbo pallidè subrosaceo.* Long. $2\frac{5}{8}$; lat. $2\frac{3}{8}$ unc.

Hab. ——— ?

A sutural band of ochreous-white, interrupted by the greenish-brown stripes, ornaments the upper part of the penultimate and last whorl.

Var. *d. Flavo-virescens, strigis latis ochraceo-albis longitudinaliter obliquis picta et fasciis brunneo-virescentibus cincta, labii limbo albo.* Long. $2\frac{4}{8}$; lat. $2\frac{3}{8}$ unc.
Hab. ad insulam Guimaras.
Legit H. Cuming in sylvis.

Var. *e. Brunneo-virescens, anfractu basali fasciâ obscurè subrubrâ tæniâ subalbidâ tessellatim interruptâ infernè limbatâ cincto, labii limbo subrosaceo.* Long. 3; lat. $2\frac{4}{8}$ unc.
Hab. in insulâ Masbate.
Legit H. Cuming in sylvis.

Var. *f. Virescens, anfractu basali fasciâ supernè subrubrâ infernè albido-tessellatâ cincta, columellâ subrosaceâ, labii limbo subrosaceo vix tincto.* Long. 3; lat. $2\frac{4}{8}$ unc.
Hab. cum præcedente.

This fine variety is blotched with irregular, obscure, ochraceous-white markings, through which pass narrow greenish fillets. On turning up all the varieties, the space polished by the animal strongly contrasts with the rest of the shell, and in all, the reddish band which girds the body-whorl may be traced at the bottom of the upper whorls. In the two varieties last described this band may be clearly seen through the shell on looking into the aperture. In all the varieties the two first whorls are plain, and not much differing in colour, viz. brownish or yellowish white.

The banded varieties, when deprived of the *epidermis* (in which the other variations of colour reside in all the varieties), appear to me to be *Helix* (*cochlostyla*) *sarcinosa* of Férussac. This species is not noticed in the last edition of Lamarck, by M. Deshayes, and indeed I can find no description of it in Férussac, excepting "No. 323, *sarcinosa, nobis*; *a. spira conica. Hab.* L'Amerique? Com. D'Orbigny." If the habitat be correctly stated, there would be some ground for supposing that the Philippine shells which we have described are of a different species; but the locality is named with a mark of doubt, which the form itself strengthens, whilst the upper figures in Férussac's work (Pl. 109), though the bands are much narrower and paler than in those skinned specimens which I have seen, bear so strong a resemblance to them, that I have preferred the retention of Férussac's name. In Mr. Cuming's skinned specimens the rich reddish-brown, broad, transverse band of the body-whorl, and the basal band of the same colour at the base of the other whorls, contrast strikingly with the pure white which is the ground-colour of the shell. A small rosy fillet runs along the upper edge of the body-whorl, near the suture.

At the bottom of the same plate Férussac has figured another variety with a uniform brown *epidermis*. These appear to have been all the materials upon which Férussac founded his *Helix sarcinosa*.

The latter will form a sixth variety, which I have never seen, but which may be thus characterized:

Var. *g. Tota brunnea* (*Fér. Hist. Nat. Moll. Terr. et Fluv.* Pl. 109. f. 3.).

Mr. Cuming, who found all the shells which I have described, and am about to describe in this paper, on the leaves of trees, informs me that *Helix sarcinosa* deposits a great number of small eggs on the leaves of the trees in the dark forests where he found all the varieties. After the eggs are deposited on the leaf chosen, the animal wraps it round them subconically, so as to resemble in a degree the small paper wrappers in which grocers hand their wares to their customers.

Obs. Though it perhaps may be considered that *Helix sarcinosa* may come within the section named *Cochlostyla* by De Férussac, there appears to me to be almost a sufficient difference in the form of the aperture, the shape and termination of the *columella*, and the ventricose character of all the whorls, to justify a separation. The animal I have not seen, and I wait for further information before I decisively make that separation, being anxious to prevent the multiplication of names, which already involve the student in a sufficiently entangled labyrinth. For the present, therefore, I shall merely observe, that if future observations confirm my present suspicions, I would propose for the group the name of *Helico-bulinus*.

HELIX TURBINOIDES. *Hel. testâ subrotundâ, subproductâ, diaphanâ, lineis incrementi obliquè longitudinaliter striatâ; apice rubente; aperturâ effusâ magnâ, cæruleo-albente, labii limbo nigro-purpurascente, lato, recurvo.*

Var. *a. Viridis, anfractu penultimo et ultimo tæniis albis nunc tenuibus nunc latioribus cinctis.* Long. $2\frac{1}{8}$; lat. $2\frac{5}{8}$ unc.

Var. *b. Ochraceo-brunnea lineis tæniisque nigris vittata, anfractu basali fasciâ viridi-nigrâ latâ cincto.*

The green colour is beautifully seen where the animal has polished the shell, on turning it up; but when it is in its natural position it would be difficult to suppose that there were any other colours than the obscure ochraceous or whitish brown and the black lines, fillets and band. On holding the shell between the eye and the light, the green hue becomes perceptible on the back of the shell, and the bands seen transparently through it on holding the aperture toward the eye and against the light, have a very pretty effect.

Var. *c. Tota viridis.*

Hab. ad Albay in insulâ Luzon.

Legit H. Cuming in sylvis.

All the varieties of this noble *Helix* are about the same size, and at first sight bear no distant resemblance to a *Turbo*. The apex and two upper whorls in the first and last varieties are reddish-brown, and pale brown in var. *b*.

HELIX HARFORDII. *Hel. testâ rotundatâ, diaphanâ, anfractibus valdè ventricosis, superioribus apiceque complanatis, lineis incrementi frequentissimè striatâ, pallidè brunneâ, anfractu penultimo maculis strigisque angulato-nubilosis vario, anfractu ultimo su-*

pernè subalbido maculis nigro-brunneis suturam versus ornato, dehinc usque ad fasciam subcentricam obscurè albidam medio brunneo-tæniatam creberrimè nigro-brunneo tæniato et maculato, infra fasciam brunneo nigricante obscurè albido maculato et tæniato; aperturâ subeffusâ, cæruleo-albidâ, labii limbo angusto subrecurvo, flavicanti-subrosaceo. Long. $1\frac{6}{8}$; lat. $2\frac{1}{2}$ unc.

Hab. in insulæ Negros montibus.

Legit H. Cuming in sylvis.

In honorem Viri Reverendi Augusti Harfordii hæc species nomen obtineat.

It is almost impossible to describe the varied markings of this fine *Helix.* Only the two last whorls are spotted and striped, the rest being pale brown. The cloudy markings of the penultimate whorl become more distinct, and the colouring becomes deeper as the body-whorl is approached, and there the spots and fillets become more crowded and intense as they approach the subcentral band, till just above it they form a dark-brown zone. The part polished by the animal is of a bright amber hue.—W. J. B. Oct. 12, 1840.

M. Le Baron de la Fresnaye then read his observations on the situation which the genus *Upupa,* in his opinion, should occupy in the classification of Birds, judging from the form of the feet, and from the habits of the species.

Following is a translation of this author's observations:—

"It is surprising, now it is generally known that the classification of species and genera, based solely upon the form of the beak, is often unnatural and vicious, that modern authors should have continued to reunite, as did the old authors, the genus *Upupa,* with that of *Epimachus* or *Promerops,* and that they should constitute with these genera a little family under the name of *Promeropidæ.*

"It is evident that authors have been guided solely by the structure of the beak in such an association; and if the feet of these genera be compared, we are struck with the enormous difference which exists in their conformation, and consequently, of necessity, with the habits of the species.

"The Hoopoe, in fact, in the shortness of its fore toes, in the almost straight form of the claws, and particularly in the claw of the hind toe, we perceive has evident affinities with the Larks (*Alauda*) and other conirostral ground birds. Like them, also, the Hoopoe seeks its food on the ground, and especially on humid and newly disturbed land. It is often seen in grazing lands, where it seeks its food in the excrement of cattle, in which coprophagous insects abound. Its long and very slender beak is well adapted for pulling out the larvæ of these insects from the small holes in which they live and undergo their transformations: it serves well likewise to divide and disperse the excrement when dried by the sun.

"It is seen that the Hoopoe, with its feet formed like those of the larks, also essentially resembles those birds in its cursorial habits, but that it seeks its nourishment only on the ground, and in humid lands, such as pasture land.

"If, on the other hand, we consider the form of the feet of the species of *Promerops*, with which the Hoopoe is usually associated, it will be seen that there exists a very essential difference in these organs. The feet of the *Promerops* are as remarkable for their thickness as those of the Hoopoe (though fitted for walking) are for their slenderness. In the first of these genera the toes are strong; the external toe is elongated, as well as the back toe, as in all those birds which are essentially perchers and which procure their food upon trees, whether it be in the manner of the species of *Melliphaga*, *Paradisea*, or *Dendrocolaptes*.

"As in these genera likewise, the claws in *Promerops* are very strong and much arched. The birds of this genus, in fact, appear to us to be *Cinnyridæ*, but on a large scale.

"The genus *Upupa*, as at present constituted, consists only of two or three species,—one from Europe, an African species, and one from India: in these there is so great a similarity in form, colouring and habits, that upon a cursory view they might be mistaken for one species.

"This genus, therefore, does not, as in most other genera, present certain species which recede from the type and form a transition between it and other genera, with which it is then natural to group them.

"From these considerations, the genus *Upupa* appears to us to be one of those isolated genera, like many others in the class, which cannot be naturally placed in any other group, but which ought to be regarded as constituting by itself a family or subfamily, under the name of *Upupidæ* or *Upupinæ*, its situation being in the section *Tenuirostres*; and if it be only regarded as a subfamily, it is with another subfamily of the cursorial *Tenuirostres* it should be grouped, which division should contain the genera *Upucerthia* of M. Isidore Geoffroy St. Hilaire, and some other genera peculiar to Chili, described by Killitz, and by Mr. Gould in the Voyage of the Beagle, and the species of which, in the form of their beak and feet as well as in their cursorial habits, afford a positive analogy with our genus *Upupa*, from which the genus *Promerops* is so isolated."

Mr. Gould, after reverting to the account given by him at the Meeting on the 8th of September, of that singular bird the Brush Turkey of New South Wales, proceeded to state that he had since received from Swan River another bird, having similar habits and a similar mode of nidification, but from which it differs in inhabiting the open sandy plains, instead of dense and gloomy glens, and in forming the mound for the reception of the eggs of sand, dead grasses and boughs, depending as much upon the sun's rays as upon the heat produced by decomposition to develope the young.

Mr. Gould added, that a most interesting note, detailing these facts, accompanied the specimens, and that an equally important sketch of its range, &c., had been furnished him by Capt. Grey, who has just returned from the north-west coast of Australia. The acquisition of this new species, and the notes here alluded to, are more than ordinarily acceptable, since they materially tend to clear up the long-disputed point as to what group the Brush Turkey should be referred. Mr. Gould further stated, that the views of those naturalists who have considered it to be closely allied to the *Megapodii*, were perfectly correct, and that the Brush Turkey and the new species now exhibited would in fact form part of a large and singular family of birds inhabiting Australia and the Indian Islands, all of which assimilate in their habits and mode of nidification. This new species differing considerably in several of its characters from the Brush Turkey (*Talegalla*), Mr. Gould proceeded to characterize it as a new genus, under the name of *Leipoa*, signifying 'a deserter of its eggs.' The specific term of *ocellata* was suggested by the ocellated character of many of the spots with which its body is adorned.

Genus LEIPOA.

Gen. Char.—*Rostrum* ferè tàm longum qùam caput; gracile, ad basin tumescens, tomiis undulatis et ad basin incurvatis, naribus amplis, oblongis, operculo tectis, et in foveâ centrali positis. *Caput* subcristatum. *Alæ* amplæ, rotundatæ, concavæ; e remigibus primariis quinto longissimo; tertiariis quàm remiges primarii ferè tàm longis. *Cauda* rotundata, rectricibus quatuordecem. *Tarsi* mediocres, robusti, anticè scutis, posticè squamis rotundatis haud æqualibus, tecti. *Digiti* subbreves; digitis lateralibus inter se ferè æqualibus.

LEIPOA OCELLATA. *Lei. pectore per medium plumas lanceolatas nigras, strigâ centrali albâ ornatas, præbente, plumis corporis supernè albescenti-cinereis, ad apicem guttâ penè ocellatâ, rufâ, nigro marginatâ, notatis.*

Head and crest blackish brown; neck and shoulders dark ash grey; the fore part of the former, from the chin to the breast, marked by a series of lanceolate feathers, which are black with a white stripe down the centre; back and wings conspicuously marked with three distinct bands of grayish white, brown and black near the tip of each feather, the marks assuming an ocellate form, particularly on the tips of the secondaries; primaries brown, their outer webs marked with zigzag lines of darker brown; rump and upper tail-coverts brownish gray, the feathers of the latter transversely marked with two or three zigzag lines near their tip; all the under surface light buff, the tips of the flank feathers barred with black; tail blackish brown, broadly tipped with buff; bill black; feet blackish brown.

Total length, 24 inches; bill, 1½; wing, 12; tail, 8½; tarsi, 2½.

Hab. Western Australia.

Mr. Gould next proceeded to characterize the two following new birds:—The first (*Cracticus argenteus*) is from the collection of Capt. Gray, and the second, a new species of *Amadina*, is from the collection of Mr. Dring, of H.M.S. Beagle.

CRACTICUS ARGENTEUS. *Cra. gulâ corporeque subtùs albis; humeris nigris; dorso argenteo-cinereo.*

Crown of the head, ear-coverts, shoulders, primaries, and all the tail-feathers for three-fourths of their length from the base, black; back silvery gray; throat, all the under surface, sides of the neck, some of the wing-coverts and the margins of several of the secondaries, rump, and tips of the tail-feathers pure white; bill horn-colour; feet blackish brown.

Total length, 11 inches; bill, $1\frac{5}{8}$; wing, 6; tail, $4\frac{1}{2}$; tarsi, $1\frac{1}{4}$.

In size this species is directly intermediate between *Cracticus cinereus* and *C. varius*.

Hab. North-west coast of Australia.

AMADINA PECTORALIS. *Am. gulâ nitidè nigrescenti-purpureo; pectore plumis ad basin nigris, ad apicem albis, fasciato; corpore supernè cinereo-fusco, alarum tectricibus crebrè guttulis albis adspersis.*

Crown of the head and all the upper surface and wings, delicate grayish brown; the tips of the wing-coverts very minutely spotted with white; tail blackish brown; throat and ear-coverts glossy blackish purple; chest crossed by a band of feathers black at the base, strongly tipped with white; abdomen and under tail-coverts vinous grey; the flanks ornamented by a few feathers, similar to those crossing the breast; bill bluish horn-colour; feet flesh-colour.

Total length, $4\frac{1}{2}$ inches; bill, $\frac{1}{2}$; wing, $2\frac{1}{4}$; tail, $1\frac{3}{4}$; tarsi, $\frac{5}{8}$.

Hab. North-west coast of Australia.

Mr. Gould next exhibited and characterized two new species of Kangaroos from Swan River; the first of these is rather less than the *Macropus Bennettii*, and is remarkable for the perfect black colour of the fore part of all the feet, which appear as if they had been dipped in ink or some other black liquid, the black not blending, as usual, with the pale colour of the hind part of the feet, but terminating in an abrupt line. The general tint of the upper parts of the body is deep gray, a tint produced by the admixture of black and white, the hairs being black at the tip, and annulated with white near the tip; the sides of the body, as well as the under parts, are of paler gray, and are tinted with buff-yellow; this yellow tint is almost pure on the abdomen between the hind legs, on the feet and inner side of the ears: the upper surface of the head and muzzle are of a soot-like colour, and the *occiput* and back of the ears, as well as the apical portion in front, are pure black; a yellowish white line is observable on each side of the muzzle, commencing at the tip, and running backwards beneath the eye; the fore half of the hands and feet are pure black, and the greater portion of the tail (which is well clothed with harsh hairs) is of the same colour; at the base, however, it is coloured as the body, and on the upper surface, for a considerable distance from the base, the black hairs are more or less annulated with whitish, producing a grizzled appearance. On the chin is a small black patch.

Mr. Gould gave to this species the specific name *manicatus*: its principal characters may be thus expressed:—

MACROPUS (HALMATURUS) MANICATUS. *Macr. obscurè griseus; vel-*

lere apud partes inferiores pallidiore et flavescente; capite suprà fuliginoso, occipite necnon auribus externè nigris; utráque gená lineá flavescente notatá; tarsis antipedibusque flavescentibus, anticè nigris; caudá nigrá ad basin griseá.

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin	30	0
———— *caudæ*	26	0
———— *tarsi digitorumque* (sine unguibus)	8	10
———— ab apice rostri ad basin auris	5	0
———— *auris*	2	6

The second species of Kangaroo to which Mr. Gould drew the attention of the members, is nearly allied to the *Macropus penicillatus* of Mr. Gray, but differs in being of a smaller size, paler colour, in having no black mark on the sides of the body, and the tail less bushy; the ears, moreover, are smaller in proportion, and more pointed. The general colour is gray-brown; the under parts of the body are dirty white, obscurely tinted with yellowish: on each side of the body, near the base of the fore leg, is a dusky patch; a dirty white mark is observable on each side of the head, and there is an indistinct mark on the base of the thigh. The tail is moderately bushy, coloured at the base like the body, but the apical third is dusky black.

Mr. Gould gave to this species the name

MACROPUS (PETROGALE) BRACHYOTIS. *Macr. vellere e fusco cinereo, apud partes inferiores albescente; caudá floccosá ad apicem nigrá; utráque gená lineá albescente notatá.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin	21	0
———— *caudæ*	16	6
———— *tarsi digitorumque* (sine unguibus)	5	0
———— ab apice rostri ad basin auris	3	8
———— *auris*	1	11

Various specimens presented since the last Meeting were exhibited. These donations consisted of a collection of Birds from Australia, presented by L. Chandler, Esq., and some specimens of Birds and Zoophytes from Gibraltar, presented by Mr. Frembly, R.N., Corresponding Member.

October 27, 1840.

William Yarrell, Esq., V.P., in the Chair.

In consequence of the lamented death of N. A. Vigors, Esq., one of the founders of the Society, and during the first years of its existence its active and zealous Secretary, whose reputation and influence had materially increased its numbers, as his liberality augmented its collections, the Society adjourned to November 10th.

November 10, 1840.

William Yarrell, Esq., Vice-President, in the Chair.

A letter from the Rev. R. T. Lowe, dated Madeira, August 8, 1840, was read. It stated that Mr. Lowe had forwarded for the Society's Museum two specimens of Snakes from Demerara, and a specimen of the *Ausonia Cuvieri* of Risso, from Madeira. "The *Ausonia*," observes Mr. Lowe, "I scarcely need remark, is one of the most interesting and valuable of my acquisitions, from the obscurity attending it, and its supposed identity with Rafinesque's *Luvarus imperialis*. It has been altogether passed over by Cuvier and Valenciennes in their *Histoire des Poissons*, though the former had previously taken it up in a note in his second edition of his *Règne Animal*."

A letter from Mr. J. Frembly, R.N., dated Gibraltar, September 23, 1840, was read. In this letter Mr. Frembly states that he had forwarded for the Society a living specimen of a Brazilian Pheasant (*Penelope pileata* of Wagler), and also a skin of the same species from Para. He had likewise forwarded some specimens of Marine Corallines and other Zoophytes, recently obtained during the prosecution of a coral fishery on the coast of Barbary.

A letter from J. Wardrop, Esq., dated Oct. 29, 1840, was next read. It refers to a Fowl brought by W. Wardrop, Esq., from the Island of Lemurs, and presented to the Society. In this Fowl the spur had been removed from its proper place, and engrafted on the head. The letter moreover states, that the natives of the island mentioned often cause the spurs of the cock bird to grow upon its head, and the comb upon its legs.

The following paper, by G. Gulliver, Esq., F.R.S., entitled "Observations on the Blood Corpuscles of the *Crocodilidæ*," was read.

"According to the observations of MM. Prevost and Dumas, Wagner, Schultz, and others, the long diameter of the oval blood corpuscles of the vertebrate animals is never more than one and a half or twice the short diameter; and M. Mandl states that this accords with his experience, except in regard to the blood corpuscles of the *Crocodilidæ*, of which he says that the long diameter is between two or three times greater than the short diameter.

"M. Mandl's observations are published in the *Annales des Sciences Naturelles*, séconde série, tome xii., in which the following remarks occur: 'En prenant dans les globules des chameaux*, oiseaux, reptiles et poissons, le petit diamètre pour unité, le grand varie entre $1\frac{1}{2}$ à 2; on en rencontre une exception dans les *Crocodiliens,* dont le grand diamètre est 2 à 3 fois plus grand que le petit.'

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* M. Mandl says in a note, "Nous avons examiné le sang du Dromadaire, de l'Alpaca, et du Chameau." I may add that I have examined the blood

"It appears that this conclusion was deduced from an examination of the blood of a single species only, the *Crocodilus Lucius* of Cuvier.

"In a short paper 'On the Blood Corpuscles of the Snowy Owl and Passenger Pigeon,' read before the Society on the 9th of June, 1840, I showed that the corpuscles of these birds, particularly of the former, were so very long, in relation to their breadth, as to present a peculiarity in this respect which I had not seen in the corpuscles of any other vertebrate animal; and, however singular it might appear, it was shown in the same communication that the blood-discs might differ remarkably in two nearly allied species of the same genus. Hence it will not appear surprising that I have failed to find the same peculiarity in the figure of the blood corpuscles of two other species of the *Crocodilidæ,* as M. Mandl did in the *Crocodilus Lucius.* In the following measurements the common-sized corpuscles are first noted, then those of extremely small and large dimensions, and lastly the average deduced from a computation of the whole; and they are all expressed in fractional parts of an English inch.

"1. Sharp-nosed Crocodile (*Crocodilus acutus*).

Long Diameter.		Short Diameter.	
1·1333	Common sizes.	1·2286	Common size.
1·1231		1·2666	Extremes.
1·1145		1·2000	
1·1600	Extremes.		
1·1000		1·2286	Average.
1·1231	Average.		

"The average thickness of the discs was about $\frac{1}{8000}$th of an inch.

"The animal was young, and the blood was obtained from the heart after death.

"2. An Alligator from South America (*Champsa fissipes,* Natterer).

Long Diameter.		Short Diameter.	
1·1455	Common sizes.	1·2666	Common sizes.
1·1333		1·2400	
1·1200		1·2286	
1·1143		1·2000	
1·1600	Extremes.	1·3000	Extremes.
1·1000		1·1895	
1·1259	Average.	1·2315	Average.

"The animal was young and lively. The blood was obtained from a prick of the foot.

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of the *Vicugna* and *Guanaco,* and found their corpuscles also of an oval shape, thus completing the history of the singular red particles of the *Camelidæ.* See 'Dublin Med. Press,' November 27, 1839, and 'Trans. of the Royal Med. and Chirurgical Society,' vol. 23.

"Thus, as is commonly the case in the oval blood corpuscles of the vertebrate animals, in these two examples the long diameter is not equal to twice the short diameter, and it may therefore be concluded that M. Mandl's remarks on the blood corpuscles of the *Crocodilidæ* are not applicable to the corpuscles of all the species of this family. So far, however, from doubting the accuracy of this physiologist's observation on the blood of the *Crocodilus Lucius*, I am disposed to regard the result of my observations, in connexion with the one which he has made, as establishing a remarkable difference in the blood corpuscles of one family of Reptiles, similar to the peculiarity which I have found in the red particles of the Linnæan genus *Strix*, as well as in those of the *Columbidæ*."

A collection of Birds from Tangiers, presented to the Society by G. W. H. Drummond Hay, Esq., was exhibited, and Mr. Hay furnished the following list, accompanied with observations on the species, which was read.

Vultur fulvus, Linn. Arabic name, *Nezer*.

"I shot this bird as he rose heavily from the top of a high rock, near Cape Spartel, on the north coast of Africa, where he had been gorging himself with the body of a dead kid. The species is rare in these parts."

Neophron Percnopterus, Sav. Arabic name, *Erhama*. "Common."

Aquila Chrysaëtos, Vigors. Arabic name, *El Oukab*.

"Very rare, but two specimens having been obtained for many years past."

Pernis apivorus. Arabic name, *Bourreh*.

"This species passes over the country about the beginning of the spring in immense numbers, but is rare at other times."

Falco subbuteo, Linn. Arabic name, *Tier el Hor*.

"A very daring little bird, used by the Sultan for hawking: it is common in the high lands."

Falco Tinnunculus, Linn. Arabic name, *Bouamira*. "Very common."

Circus rufus, Bechst. Arabic name, *Hedia*. "Rare."

Alcedo ispida, Linn. Arabic name, *Tier Teberni*. "Common about the rivers."

Caprimulgus Europæus, Linn. Arabic name, *Terref el Aiyal*. "Very common."

Merops Apiaster, Linn. Arabic name, *Liamon*.

"In the grape season this bird is exceedingly abundant; as many as twenty or thirty have been shot at one time from a tree: it is good eating, builds in holes in the ground, and sometimes uses rabbit-burrows for the purpose: feeds upon bees, flying ants, wasps, &c.; has an undulating flight, and does not flap the wings much. Disappears in the winter months."

Coracias garrula, Linn. Arabic name, *Characrac*,—a name which has reference to the noise which it makes.

"It is rather rare; comes generally in the spring, and remains about three months."

Lanius rufus, Linn. Arabic name, *Raich el Rra.* "Rare."

Oriolus Galbula, Linn. Arabic name, *Teir Sofar*.

"Rare: makes its appearance in the beginning of the spring, and leaves at the end of the spring."

Ixos obscura. Arabic name, *Chouchou*.

"Very common, especially in the orange plantations; destroys much of this fruit. Seen throughout the year."

Curruca melanocephala. Arabic name, *Chorrir*. "Rare."

Curruca atricapilla, Bechst. Arabic name, *Chorrir el Quebir*. "Rare."

Phœnicura Tithys, Jard. and Selby.

Phœnicura ruticilla. "Common."

Sylvia cisticola, Savi. Arabic name, *Boussiou*.

"Rather uncommon: builds near hedges."

Saxicola Stapazina. "Uncommon."

Saxicola aurata, Temm. "Common."

Saxicola Rubicola, Bechst. "Common."

Anthus arboreus, Bechst. Arabic name, *Koba*. "Common."

Anthus pratensis, Bechst. Arabic name, *Koba*. "Common."

Emberiza Hortulana, Linn. "Common."

Serinus flavescens, Gould. Arabic name, *Chimerees*. "Rare."

Sturnus unicolor, Temm. Arabic name, *Garzor Quehal*.

"Rather rare: generally settles in the mosques, where it probably builds."

Upupa Epops, Linn. Arabic name, *Hadhud*. "Common: generally seen about dunghills."

Glareola torquata, Briss. Arabic name, *Harrak Diad*.

"Lays on the ground in barren situations, and does not build a regular nest, but merely places a few straws, &c., loosely together."

Cursorius isabellinus, Meyer. Arabic name, *El-Gueta*.

"Very rare: builds in the desert, in the sand. From the great resemblance between the colour of this bird and that of the sand, it is with difficulty seen, even when flying, since it then keeps very close to the ground."

Ciconia nigra, Ray. Arabic name, *Geringa*.

"Rare. The Moors believe evil spirits to exist in this bird, it being black, whilst the good spirits are supposed to inhabit the white birds."

Platalea Leucorodia, Linn. Arabic name, *Boucarcaba*. "Rare."

Ardea purpurea, Linn. Arabic name, *Said el Meresh*, or Hunter of the Marsh. "Rare."

Botaurus stellaris, Linn. Arabic name, *Seba el Meresh*, the Lion of the Marsh.

"Both the *Ardea purpurea* and the *Botaurus stellaris* are exceedingly pugnacious in their habits, and will not allow any other bird to approach them. Even the female dare not approach the male excepting in the breeding-season."

Ardea Garzetta, Linn. Arabic name, *Boubliqa*. "Very rare."

Ardea Verany, Temm. Arabic name, *Tier Abgar*. "Exceedingly rare."

Ardea Ralloïdes, Scops. Arabic name, *Grnok el Serreh*. "Rather uncommon."

Ibis Falcinellus, Temm. Arabic name, *Maiza del Wad*. "Very rare."

Limosa melanura, Leisl. Arabic name, *Chibib*. "Not uncommon."

Squatarola cinerea, Gould. Arabic name, *Dorreis*. "Common."

Charadrias Hiaticula, Linn. Arabic name, *Couba*. "Common."

Strepsialis collaris, Temm. Arabic name, *Charno*. "Rare."

Totanus fuscus, Leisl. "Rare."

Totanus hypoleucos, Temm. "Rare."

Tringa variabilis, Mey. "Rare."

Tringa subarcuata, Temm. "Rare."

Tringa minuta, Leisl. "Very rare."

Tringa caruncukata. Arabic name, *El Gor*. "Common."

Undina leucocephala, Gould. Arabic name, *Bugarein*.
"Exceedingly rare. A very excellent diver; will remain under water a long time."

Anas leucophthalmus, Temm. Arabic name, *Bourk el Serrer*.
"Rare: a good diver."

Anas marmorata, Temm. Arabic name, *Bourk el Biad*. "Rare: a good diver."

Podiceps cristatus, Lath. Arabic name, *Bourk el Wad*. "Rare."

Alca Torda, Linn. Arabic name, *Bourk del Bahar*. "Rare."

A paper, in which Mr. G. B. Sowerby continues the descriptions of the shells collected by H. Cuming, Esq., in the Philippine Islands, was next read.

HELIX ANNULATA. *Hel. testá obovatá, crassiusculá, lævi, plerumque flavá, fusco-cinctá; spirá elevatiusculá, obtusá, anfractibus quinque rotundatis, ultimo maximo; aperturá rotundato-subtrapezoidali; peritremate lato, incrassato, albo roseo tincto; labio columellari lato, crasso, planulato, posticè subemarginato, anticè suprà columellam expanso.* Long. 1·0; lat. 0·8 poll.

Hab. in foliis Pandani propè Banqui, provinciæ Iloconis septentrionali ad insulam Luçon, Philippinarum.

This beautiful species bears considerable resemblance to *H. Iloconensis*, but may be distinguished by the dark chocolate colour of the back of the outer lip, which is also narrower, and much less reflected. Five varieties have been found by Mr. Cuming, viz.

a. Bright yellow, with a blood-red antesutural band, which becomes darker, and nearly chocolate-brown on the last volution: back of the lip and circumference of the *columella* dark chocolate-brown.

b. Bright yellow: antesutural band narrow, blood-red; circumferential band blackish brown: in other respects similar to *a.*, and from the same locality.

c. Nearly similar to the last, but having a broader circumferential brown band, and a very narrow brown line between it and the antesutural band. From the same locality.

d. Pale yellow: antesutural band nearly obsolete: in all other respects like *b.*

e. Shell white: no antesutural band; circumferential band broad, and nearly black; last volution suffused with rose-red near the back of the lip.

HELIX BALTEATA. *Hel. testá subglobosâ, crassiusculá, lævi, coloribus variis cinctá; spirá elevatiusculá, obtusá, anfractibus quinque, subplanulatis, ultimo maximo; aperturá semilunari, intùs albicante; peritremate incrassato, angusto, leviter reflexo, extùs nigro; labio columellari latiusculo, obliquo, planulato, crasso.* Long. 1·0; lat. 0·8 poll.

Hab. in foliis fruticum ad provinciam Ilocos septentrionalis insulæ Luçon, Philippinarum.

In general form and size and colouring this species somewhat resembles our *H. Orbitulus*, from which it may be at once distinguished by its narrow, scarcely reflected, dark-coloured lip. The ground-colour of this species is usually whitish, or lemon-yellow, and the varieties are banded with dark green, gray, nearly black, and light green, and the columellar lip is commonly purplish black, with a crimson tinge. The following is an indication of the varieties:—

a. Apex dull red; ground-colour lemon-yellow; antesutural band dark green; post-circumferential band light greenish gray; columellar lip purplish black, with rose-coloured edges; columellar circumference green. From Banqui, in the province of North Ilocos.

b. Apex dull red; ground-colour pale lemon-yellow; antesutural band dark green; post-circumferential band greenish gray close to the broad circumferential band, which is reddish black; *columella* purplish black, its circumference green. From Banqui.

c. Apex dull red; ground-colour pale lemon-yellow; antesutural band green, darker in front; post-circumferential band greenish gray, also darker in front; *columella* and its immediate circumference purplish black, around which is a rather broad green band. From Sinait. Found on the leaves of trees.

d. Apex dull red; ground-colour lemon-yellow; antesutural band broad, dark green, composed of several narrow bands, next to which is a broad, pale, greenish gray band; circumferential band dark green, nearly black; *columella* purplish red, its circumference with a broad green band. From Banqui.

e. Apex dull pale red; ground-colour pale lemon-yellow: antesutural band broad, dark green; post-circumferential band very broad, greenish gray, with a very narrow nearly black band in front; then comes a narrow band of the ground-colour, and the remainder is green to the circumference of the *columella*, which is blackish; the *columella* itself is purplish black. From Piddig, in the province of North Ilocos.

f. Apex pale dull red; ground-colour pale lemon-yellow; antesutural band very narrow, dark green; post-circumferential band very broad, greenish gray, united in front to the blackish circumferential band; *columella* blackish, its circumference with a very narrow green band. From Piddig.

g. Apex grayish white; ground-colour bright lemon-yellow; antesutural band narrow, dark green; post-circumferential band grayish green; circumferential band nearly black; *columella* crimson, its circumference green.

h. Apex and ground-colour white; bands as in *g.*; *columella* blackish; its immediate circumference black, around which is a dull green band; the antesutural band in this variety is very narrow, and of a dull colour, and two nearly black bands are distinctly seen within the aperture. From Sinait.

Helix fenestrata. *Hel. testâ subglobosâ, crassiusculâ, lævi, castaneo-nigrâ, epidermide fuscâ albicante-bifasciatâ; anfractibus quinque rotundatis, ultimo maximo, posticè prope suturas fenestratis (attritione epidermidis); aperturâ subrotundâ; peritremate lato, albo, reflexo; labio columellari lato, crasso, subplanulato.* Long. 1·0; lat. 0·85 poll.

Hab. supra foliis arborum ad montes Caravallo, provinciæ Cagayan, insulæ Luzon Philippinarum.

There are two varieties of this pretty species, which in general form resemble *H. Iloconensis* and *H. annulata*: they are

a. Anterior intermediate band dark brown.

b. Anterior intermediate band light brown.

The next paper read was from Mr. G. B. Sowerby, Jun., and is entitled "Descriptions of some new species of *Murex*, principally from the collection of H. Cuming, Esq."

Murex Occa, Conch. Illustr. f. 45. *Mur. testâ clavatâ, ventricosâ, fulvo-glaucescente; spirâ mediocri; caudâ longissimâ, rectâ, ad terminum subexpansâ, subrecurvâ; anfractibus angulatis transversè leviter sulcatis; varicibus tribus, spinis dorsalibus tribus brevibus falcatis, tribusque minutissimis alternantibus, deindè ad caudam tribus ad quatuor subrectis, interstitiis bituberculatis; aperturâ ovatâ, rotundatâ, posticè subangulatâ; labio crenulato, dente unico magno lato marginali; canali ferè clauso.*

Long. 3; lat. extra varicibus, 1 poll.

Hab. ad insulas Nicobaricas.

The comparative smoothness of the whorls, and the short, curved character of the dorsal spines, are sufficient to distinguish this from other clavate species.

Murex Messorius, Conch. Illustr. f. 93. *Mur. testâ clavatâ, subventricosâ, fulvo-rubescente, griseo, rubro, fuscoque maculatâ; spirâ brevi; caudâ elongatâ, rectâ, angustâ, minimè recurvâ; va-*

ricibus tribus, crassis, costatis, antè crenulatis, ponè foveolatis, ad angulum posticum spinâ brevi rectâ, ad caudam spinâ falcatâ, subelongatâ, deindè unâ breviore, rectâ; interstitiis duobus ad tribus costis noduliferis; aperturâ ovali, posticè subcanaliferâ; labio interno posticè tumido, intùs crenulato; labio externo denticulato, anticè paululum extante; canali ferè clauso.

Long. 2·40; lat. ex. var. ·90 poll.

Hab. ——? Mus. Cuming, Stainforth.

Distinguishable by the thickened varices, and the spine at the base of the caudal canal, shaped like a reaper's hook.

Murex rectirostris, Conch. Illustr. f. 95. *Mur. testâ clavatâ, subventricosâ, transversè costatâ, pallidè fulvâ, fusco-rubescente bifasciatâ; spirâ mediocri, anfractibus octo, rotundatis; suturis excavatis: caudâ elongatâ, angustâ, rectâ; varicibus tribus, crassis, antè crenulatis, ponè excavatis, ad angulum posticum spinâ crassâ, brevi, propè caudam tribus minutis proclivis, ad caudam duabus seu tribus tenuibus, rectis: interstitiis tricostatis; aperturâ ovali, peritremate extanti, labio externo crenulato; canali ferè clauso.*

Long. 2·80; lat. ex. var. 1 poll.

The spire is more elongated, the caudal canal is longer and more straight than in *M. recurvirostris*, Brod.

Murex nigrescens, Conch. Illustr. f. 98. *Mur. testâ subclavatâ, subrhomboideâ, transversè leviter costatâ, griseâ, nigro bifasciatâ, ad apicem fusco-rubescente: spirâ subproductâ, anfractibus septem, subangulatis, inter varices trifariàm tuberculiferis; suturis validis: caudâ elongatâ, rectâ, tenui; varicibus tribus, validis, rotundatis, noduliferis, ponè subexcavatis, ad angulum tuberculo subspinoso, ad basin caudæ spinis duabus: aperturâ ovali, labio interno albo, posticè tumido, anticè extante, crenulato, labio externo denticulato, intùs crenulato; canali clauso.*

Long. 2; lat. ex. var. ·80 poll.

Hab. ad Xipixapi. H. Cuming legit.

More ventricose and less clavate than *M. recurvirostris*, Brod., with a larger aperture, thinner varices, and straighter caudal canal. The sutures of the spire are not excavated, and the varices are very slightly so. Sandy mud, 11 fathoms.

Murex pliciferus, Conch. Illustr. f. 102. *Mur. testâ elongatâ, subfusiformi, subventricosâ, atrâ, albâ, pallidè fusco-subfasciatâ; transversè lineis moniliformibus striata spirâ productâ, anfractibus novem, subangulatis, suturis validis, subexcavatis; caudâ subelongatâ, rectâ, paulo exfoliatâ, leviter recurvâ: varicibus tribus, post angulum trifariàm spinoso-fimbriatis, ad angulum posticum spinâ crassâ, subelongatâ, rectâ, deindè quinque, brevioribus apertis, quarum primis duabus et ultimâ brevissimis, ad caudam duabus subelongatis, unâ brevi: aperturâ magnâ, ovali; labio interno lævi, paululùm extante; labio externo levitèr crenulato, canali recto, aperto; interstitiis varicum tuberculo valido, tum costâ elongatâ, plicatâ, deindè costâ elongatâ angustiori subplicatâ.*

Long. 3·40; lat. ex. var. 1·50.

Hab. ——? Mus. Cuming.

There is no danger of confounding this fine species with any other. It is intermediate between the clavate and the fusiform groups.

MUREX PLICATUS, Conch. Illustr. f. 6. *Mur. testâ clavatá, ventricosâ, pallidè violaceá, fulvo tinctá et lineatá: varicibus tribus, costatis crassis, ad latus marginale crenatis, ponè excavatis, ad angulum anfractuum spiná crassá brevi, deindè quinque alternatis, ad caudam tribus, subrectis, subelongatis; interstitiis tribus ad quatuor costis noduliferis; spirá breviusculá; aperturá ovali, posticè canaliferá; labio crenato; caudá rectá, crassá, subelongatâ; canali ferè clauso.*

Long. 3·0; lat. ex. var. 1·30.

Hab. ad sinus Nocoyo. H. Cuming legit.

Found in coarse sand, at twelve fathoms. Distinguished from other species with elongated caudal canals by its width, and the thickness of the varices, which are deeply excavated at the back, and armed with short thick spines. *M. recurvirostris*, Brod., is the nearest approach, but is not so wide nor so spinose, and the caudal canal is recurved.

MUREX FORMOSUS, Conch. Illustr. f. 91. *Mur. testá subclavatá, transversè leviter costatá, scabrosâ, fulvo purpurascente: spirá subproductá, aculeatá; anfractibus novem rotundatis; suturis validis; caudá elongatá, obliquâ, tenui, recurvá, validissimè exfoliatâ: varicibus tribus à tergo subexcavatis, spiná ferè elongatá ad angulum posticum, deindè tribus apertis subelongatis, cum parvis quinque ad sex proclivis alternantibus, ad caudam duabus mediocribus ferentibus; interstitiis trifariàm noduloso-costatis; aperturâ ovali posticè subcanaliferá, labio interno anticè vix minimè extante; labio externo denticulato, anticè extante; canali aperto.*

Long. 3·15; lat. ex. var. 1·05 poll.

Hab. ad Loay, Ins. Bohol. Mus. Cuming, Sowerby, Stainforth.

This belongs to the group of which *M. Motacilla* forms the type. It is an extremely elegant shell; the caudal canal is gracefully curved and exfoliated. Sandy mud, 7 fathoms.

MUREX MINDANAENSIS, Conch. Illustr. f. 92. *Mur. testâ subclavatá, subventricosá, transversè sulcatá, pallidè fusco-rufescente; spirá productá, anfractibus octo rotundatis, suturis validis; caudá elongatá, subrecurvá, exfoliatá: varicibus tribus, validis, rotundatis, ponè subexcavatis; ad angulum posticum spiná unicá brevi; deindè spinis quinque brevioribus, parvisque quinque proclivis alternantibus: interstitiis tricostatis; aperturá ovali; labio externo crenulato, margine dentato; labio interno lævi, paulo extante; canali ferè clauso.*

Long. 3; lat. ex. var. ·85; *cauda*, 1·5.

Hab. prope Cagayan, provinciæ Misamis ad insulam Mindanao Philippinarum. H. Cuming legit.

This beautiful and very distinct species presents a medium between the groups of which *M. Motacilla* and *M. ternispina* may be taken as the types. It was dredged at Cagayan in sandy mud, at a depth of 25 fathoms.

Murex elegans, Conch. Illustr. f. 84. *Mur. testâ clavatâ, ventricosâ, rhomboideâ, lævi, transversè costatâ, albâ, costis fusco-lineatis; varicibus tribus, crassis, rarissimè subspinosis; interstitiis bituberculatis; aperturâ ovali, labio externo crenulato; caudâ elongatâ, recurvâ, anticè latâ, angulatâ.*

Long. 2·15; lat. ex. var. 1 poll.

Hab. ——? Mus. H. Cuming.

A much smoother shell than *M. Motacilla*, and having two large tubercles between the varices, instead of three. It has been named as above by Dr. Beck in collections, but we believe has never been described.

Murex similis, Conch. Illustr. f. 69, 70. *Mur. testâ subfusiformi, subventricosâ, transversè interrupto-costatâ, pallidè fulvâ, transversè bifasciatâ vel interrupto lineatâ: varicibus tribus, costatis; ad angulum anfractuum unâ spinâ brevi, deindè quatuor ad quinque anterioribus minimis, ad caudam unâ spinâ brevi; interstitiis trifariàm noduloso-costatis: caudâ recurvâ longiusculâ posticè latâ, angulatâ exfoliatâ; aperturâ ovali; labio extante, intùs leviter crenulato; labro crenulato.*

Long. 1·90; lat. ·8.

Hab. ——? Mus. Saul.

The spire is much more elongated, the varices more spinose and less thickened, and the caudal canal less elevated than in *M. Motacilla*, which, in general characters, it much resembles.

Murex scabrosus, Conch. Illustr. f. 73. *Mur. testâ subturbinatâ, ventricosâ, crassâ, corrugatâ, transversè lineis elevatis, scabrosis, distantibus, costatâ, pallidè fulvâ, fusco-maculatâ; spirâ brevi, obtusâ, anfractibus sex ventricosis, suturis validis; caudâ longitudine aperturam æquante, rectâ, crassâ, latâ, exfoliatâ, ad basin sub-coarctatâ; varicibus tribus, validis, costatis, posticè excavatis; costarum, unâ ad angulum posticum subspinosâ, tribus ad partem anticam anfractus anticè fimbriatis, tribus ad caudam, validis, subspinosis, subfimbriatis; interstitiis tuberculis tribus corrugatis anticè ad basin caudæ læviusculis; aperturâ magnâ, albâ, rotundatâ; labio interno lævi, decumbente, purpureo; labio externo crenulato; canali aperto.*

Long. 2·20; lat. ex. var. 1·10 (*spira*, $\frac{1}{3}$; *apertura*, $\frac{1}{3}$; *cauda*, $\frac{1}{3}$).

Hab. ——? Mus. Saul.

We have only seen one specimen of this shell, which resembles, in some degree, the young of *M. pomum*; but the varices are narrower, the tubercles smaller, and there is a smooth space just below the ventricose part of the last whorl. The caudal canal is larger and straighter.

Murex Banksi, Conch. Illustr. f. 82. *Mur. testâ fusiformi,*

transversè scabroso-sulcatá, fulvá, fusco-maculatá, ad varices nigrescente; spirá productá, anfractibus septem, rotundatis, suturis validis, subundatis; caudá elongatá, latá, nisi ad extremitatem rectá, paululum recurvá: varicibus tribus, ramis breviusculis acuto-frondosis, subrectis, ad caudam quatuor compressis, quorum duobus elongatiusculis: interstitiis tuberculis tribus subpliciformibus: aperturá albá, ovali, posticè canaliferá; labio externo acutissimè denticulato; canali aperto.

Long. 2·80; lat. ex. var. 1·15 poll.

Hab. ad Mollucas.

The above name, although, we believe, never published, has been applied to this species in several cabinets. The compressed character of the fronds on the caudal canal bring it near to *axicornis*, but the other fronds are much shorter.

Murex Saulii, Conch. Illustr. f. 77. *Mur. testá fusiformi, transversè lineis elevatis striatá, pallidè fulvá, fusco-rubescente vel nigricante lineatá: spirá elongatá; anfractibus novem, rotundatis, gradatim crescentibus; suturis validis: caudá subelongatá ad basin planá, exfoliatá, rectá; extremitate obliquá, recurvá: varicibus tribus obliquiter continuis, crassis, rotundatis ad angulum posticum; ramo crassiusculo, ad basin subcomplicato, extremitate frondoso, recurvo, roseo; deinde quatuor apertis, angustioribus, roseis, frondosis, cum quinis minoribus proclivibus alternantibus, tum tribus ad caudam subcompressis, roseis, frondosis: interstitiis tuberculis duobus, uno majore, uno minore: aperturá ovali, posticè canaliferá, angulatá; labio interno lævi; labio externo dentibus duodecim acutis; canali aperto, subsinuoso.*

Long. 2·80; lat. ex. var. 1 poll.

Hab. ad insulam Capul, Philippinarum. H. Cuming legit. Mus. Saul, Stainforth, Reeves.

It is somewhat surprising that this species should not have been distinguished ere this from *M. Palmarosæ*, from which it differs in having a smooth inner lip, and in having small projecting fronds on the varices between the larger ones.

Murex torrefactus, Conch. Illustr. f. 110, 111. *Mur. testá subfusiformi, subventricosá, transversè costis subscabrosis striatá: spirá elongatá; anfractibus novem, rotundatis, subgradatim crescentibus; suturis subvalidis: caudá mediocri, latá, palmatá, exfoliatá, ad basin rectá, ad extremitatem obliquá, recurvá: varicibus tribus, crassis; ramis dorsalibus quinque, frondosis, brevibus (uno ad angulum posticum crassiusculo), cum parvis quinque proclivibus alternantibus, ad caudam tribus subcompressis: interstitiis tuberculis duobus, uno majore: aperturá flavidá ovali, posticè canaliferá, subangulatá; labio interno lævi; labio externo dentibus duodecim acutis; canali aperto, subsinuoso.*

Long. 3·70; lat. 1·60 poll.

Var. *Testá pallidè fulvá, fusco-nigricante, lineatá; frondibus fuscis.*

Var. *Testá ferè adustá.*

Var. *Testá flavido-rufescente, fusco-lineatá.*

Hab. ad insulam Ticao, Philippinarum. H. Cuming inter alios legit.

Much more ventricose, with a wider caudal canal, and much shorter fronds than *M. Saulii*. Found on coral reefs.

Murex palmiferus, Conch. Illustr. f. 99. *Mur. testâ subfusiformi, transversê scabroso-sulcatâ, fulvo-roseo tinctâ: spirâ elongatiusculâ, acutâ; anfractibus octo, subangulatis: caudâ mediocri, exfoliatâ, obliquâ, paululûm recurvâ: varicibus tribus; frondibus palmatis, ad angulum posticum duobus subelongatis, subconnexis, tum duobus singularibus, deindê duobus connexis, cæteris parvis, proclivibus, ad caudam tribus singularibus, quarum ultimo brevissimo: interstitiis bituberculatis: aperturâ ovali, posticê subangulatâ; labio externo crenulato; canali aperto.*

Long. 1·70; lat. ex. var. ·80 poll.

Hab. Red Sea.

Murex corrugatus, Conch. Illustr. f. 72. *Mur. testâ subrhomboideâ, transversê costatâ, corrugatâ, scabrosâ, albo-lutescente: spirâ productâ; anfractibus septem, subangulatis: caudâ mediocri, exfoliatâ, ad basin latâ: varicibus tribus, tenuibus, costatis; frondibus sub-palmiferis, ad angulum duobus confertis, tum duobus singularibus, deinde tribus confertis, ad caudam duobus seu tribus singularibus: interstitiis bituberculatis: aperturâ magnâ; labio interno lævi; labio externo maximê extante, crenulato; canali aperto.*

Long. 1·30; lat. ex. var. ·60 poll.

Hab. ——? Mus. Cuming, Watson.

Murex laqueatus, Conch. Illustr. f. 78. *Mur. testâ rhomboideâ, transversê costatâ, crassâ, albâ: spirâ mediocri; anfractibus septem, subangulatis: caudâ breviusculâ, rectâ, crassâ: varicibus tribus obliquiter spiram decurrentibus, à tergo tumulosis, fimbriâ laqueatâ carinatis, ad caudam subspinosis: interstitiis tuberculo magno costatis: aperturâ parvâ, ovali; labio externo crenulato; canali aperto.*

Hab. ——? Mus. Saul.

A much thicker shell than *M. tripterus*, Born., and moreover having the caudal canal spinose.

Murex canaliferus, Conch. Illustr. f. 74. *Mur. testâ parvâ, crassâ, subfusiformi, sublævi, albo-lutescente: spirâ productâ; anfractibus sex ad septem, subplanis: caudâ breviusculâ, subrectâ, ad terminum minimê recurvâ: varicibus tribus, fimbriatis, antê inciso-fimbriatis, ponê lævibus, costatis; ramis uncinatis, planis, tubiformibus, ad angulum posticum uno valido, subelongato, ad medium anfractûs uno brevi, tum duobus minimis, obsoletis, ad caudam duobus parvis: interstitiis obscurê quadrifariam nodulosis: aperturâ integrâ, parvâ, ovali; peritremate lævi; canali nisi ad extremitatem clauso.*

Long. 1; lat. ex. var. ·35 poll.

Hab. ——? Mus. Stainforth, Sowerby.

Differing from *M. cancellatus*, in being more fusiform, thin and smooth, in the caudal canal being longer and straighter, and in the sutures of the whorls being simple.

Murex cancellatus, Conch. Illustr. f. 75. *Mur. testá parvá, crassiusculá, fusiformi, cancellatá, albo-lutescente: spirá subproductá; anfractibus quinque; suturis foveolatis: caudá brevi, crassá, latá, ad terminum tortuosá, minimè recurvá: varicibus tribus, fimbriatis, crassis, costatis, utrinque foveolatis; ramis tubulatis, uno ad angulum crasso, valido, ad medium anfractús, uno brevissimo, cæteris obsoletis: interstitiis trifariam noduloso-costatis: aperturá parvá, integrá, ovali; peritremate lævi; canali nisi ad extremitatem clauso.*

Long. ·75; lat. ex. var. ·31 poll.

Hab. ——? Mus. Stainforth.

A small white fimbriated shell, with the canal and a frond open only at the extremities.

Murex Capensis, Conch. Illustr. f. 76. *Mur. testá parvá, subfusiformi, lævi, fulvo-rubescente: spirá productá, caudam æquante: varicibus tribus, digitato-alatis; spinis quinque planis, subtubulatis, fimbriá membranaceá connexis, uná ad angulum anfractuum falcatá: aperturá ovali, posticè subangulatá; canali nisi ad extremitatem clauso.*

Long. 1; lat. ·40 poll.

Hab. ad Bonæ Spei promontorium. Mus. Cuming, Sowerby, &c.

A pretty little species, with nearly tubular digitations connected by a fringe. The posterior digitation of each varix is hooked.

Murex trialatus, Conch. Illustr. f. 18. *Mur. testá rhomboideá, lævi, subventricosá, fulvá, fusco-nigrescente fasciatá: varicibus tribus, alatis, ad marginem undatis, posticè subelongatis, subaculeatis, ad latus marginale fimbriatis, subcanaliculatis, à tergo lævibus, ad terminum exfoliatis: apertura ovali; labio undato: caudá brevi, latá: canali clauso: spirá elongatá.*

Hab. ——? Mus. Saul.

Murex emarginatus, Conch. Illustr. f. 64. *Mur. testá rhomboideá, sublævi, pallidè fusco-rubescente: spirá brevi; anfractibus quinque, prope suturas angulatis; suturis undatis: caudá angustá, obliquiter rectá, exfoliatá, leviter recurvá: varicibus tribus, crassis, angulatis, anticè dente unico subextanti, unico minore à tergo undato-costatis, supernè fimbriá anticè dilatatá, canaliferá, subitò ad caudam truncatá carinatis: interstitiis tuberculo magno: aperturá magná, ovali; labio externo undato, extante, anticè dente unico armato; canali nisi ad extremitatem clauso.*

Long. 2; lat. ex. var. 1 poll.

This species presents a near approach to *M. Monoceros, nobis*, but the canal is closed, and it is also longer and narrower. The varices are fimbriated. The fringe near the canal is suddenly terminated, being in a manner drawn in.

Murex monoceros, Conch. Illustr. f. 65. *Mur. testá rhom-*

boideá, irregulari, transversè minutè striatá, griseá, lineis albis inter fasciis fuscis cinctá: spirá mediocri; anfractibus septem, subangulatis: caudá brevi, latá, exfoliatá: varicibus quatuor ad quinque subdecumbentibus, paululùm rotundatis, antè quadrifariam denticulatis, uno dente magno prope caudam subextante, uno minore: interstitiis tuberculo magno: aperturá magná, posticè subangulatá; labio externo, dente magno prope canalem extante, intùs denticulato, canalifero; canali aperto.

Long. 2·25; lat. ex. var. 1·20 poll.

Hab. —— ? Mus. Norris.

A very remarkable shell in the collection of J. Norris, Esq., with a large tooth on the anterior part of the outer lip, resembling that in *Monoceros*.

Murex fasciatus, Conch. Illustr. f. 86. *Mur. testá rhomboideá crassá, transversè costatá, albá, vel pallidè fulvá, fusco-bifasciatá: spirá breviusculá; anfractibus sex, subrotundatis, paululùm angulatis: caudá brevi, crassá, compressâ, subumbilicatá: varicibus tribus, rotundatis crassis, costatis: interstitiis tuberculo valido, elongato: aperturá ovali, posticè subcanaliferá; labio interno lævi; labio externo crenulato, intùs dentato; canali nisi ad extremitatem clauso.*

Long. 1·20; lat. ex. var. ·65 poll.

Hab. ad oras Africanas (River Gambia).

Murex varius, Conch. Illustr. f. 57, 104. *Mur. testá crassá, subrhomboideá, ventricosá, subscabrosá, pallidè fulvá, fusco-fasciatá; rubro-lineatá, lineis extantibus submoniliformibus transversè sulcatá: spirá mediocri; anfractibus septem, primis angulatis, ultimá subrotundatá: caudá brevi, latâ, crassá, exfoliatá: varicibus quinque ad septem, decumbentibus, prope angulum posticum à tergo tumulosis; tuberculis subspinosis, uno ad angulum brevi, crasso, subcrispato, tum aliquando tribus minutis, deinde tribus majusculis, ad caudam uno subelongato: aperturá magná, subrotundatá, posticè subangulatá; labio interno lævi, crasso; labio externo crenulato; canali aperto.*

Long. 2·35; lat. ex. var. 1·50.

Hab. Gambia. Mus. Cuming.

Murex tumulosus, Conch. Illustr. f. 71. *Mur. testá clavatá, ventricosá, pallidè fulvâ, fusco-bifasciatá, transversè scabroso-sulcatá: spirá brevi; anfractuum suturis excavatis: varicibus septem, validis, crassis, costatis, antè crenulatis, ponè excavatis, ad suturas tumulosis; ad medium anfractuum spinis duabus subelongatis, rectis; ad caudam spinis tribus: caudá elongatâ: aperturá magná, ovali, posticè subangulatá; anticè margine sub-producto, intùs crenulato.*

Long. 3·60 (*caudæ*, 2·3); lat. ex. var. 1·30.

Hab. —— ? Mus. Stainforth.

This species differs from *M. cornutus*, in the thickness of the varices, which are excavated behind. The sutures of the spine are also excavated.

Murex varicosus, Conch. Illustr. f. 49. *Mur. testá subclavatâ, transversè sulcatá, albá, ad varices fusco-nigricante: varicibus sex, tumidis, subfrondosis, anticè inciso-fimbriatis, pone frondes lævibus, integris, posticè ad anfractum proximum dilatatis, ultimo magis expansá, digitatá: spirá breviusculá; suturis anfractuum excavatis: caudá subelongatá, latá: aperturá rotundatá, albâ; canali ferè clauso: caudá subelongatá, latá.*

Long. 1·70; lat. ex. var. ·80.

Hab. ——? Mus. Stainforth.

This species differs from *M. secundus*, in being much less oblique, in not having the labial varix so much larger than the rest, in having a greater number of varices and a somewhat longer spire and in attaining a larger size.

Murex digitatus, Conch. Illustr. f. 79. *Mur. testâ pyriformi, transversè costatâ, roseo-fulvá: spirá breviusculá; anfractibus quinque, ventricosis, angulatis, supernè complanatis; suturis excavatis: caudá longiusculá, ad basin latá, gradatim angustiore: varicibus octo, costatis, digitatis, posticè usque ad medium proximi anfractûs prolatis; digitis numerosis, nigrescentibus, subproclivibus, rugosis, palmatis, minoribus alternantibus: aperturá ovali; labio externo crenulato; laminá canalis latá.*

Long. 1·55; lat. ex. var. ·80 poll.

Hab. ad insulam Messonam. Mus. Cuming.

In general form resembling *M. Scorpio*, *M. secundus* and *M. varicosus*, but differing from them in being much straighter, having many more varices, the digitations being less connected, and in their being continued across the body of the shell in the form of interstitial ribs.

Murex megacerus, Conch. Illustr. f. 18. *Mur. testâ rhomboideá, subventricosá, fulvo-rufescente, intùs albâ, transversè scabroso-sulcatá: varicibus quinque, ad caudam exfoliatis; frondibus subrectis, crassis, ad terminum foliatis, uná ad angulum anfractuum magnâ, deinde tribus mediocribus, cum quatuor parvis, proclivibus, alternantibus; ad caudam tribus mediocribus: interstitiis costá quinquefariam tuberculiferá: aperturâ ovali, posticè canaliferá, subangulatâ, margine dentato, undato; canali aperto: caudá longitudine spiram æquante, latá, subrecurvá.*

Long. 3·45; lat. ex. var. 1·90 poll.

Hab. ad mare Pacificum.

Distinguished by the thick, straight, prominent frond on each of the five varices.

Murex falcatus, Conch. Illustr. f. 31. *Mur. testâ fusiformi, tenui, albá, fulvo-fasciatâ; anfractibus angulatis, apicem versus cancellatis: varicibus quinque ad septem, alatis, lævibus, posticè elongatis, falcatis, ad marginem posticum plicá involutis, ad caudam exfoliatis: interstitiis in medio uni-plicatis: caudá elongatá, subrecurvá: aperturá ovali, posticè angulatá; margine externo perelevato, subcrenato; canali clauso.*

Long. 1·55; lat. ex. var. ·65.

Hab. ad insulam Japan. Mus. H. Cuming.

A beautiful species with five to seven broad, smooth, foliated varices in each whorl. Found in deep water.

Murex inermis, Conch. Illustr. f. 87. *Mur. testâ fusiformi, transversè leviter costatá, albá: spirá elongatá, acutá; anfractibus septem, rotundatis, ultimo pyriformi; suturis validis, foveolatis: caudá elongatiusculá, tortuosá: varicibus sex, levitèr noduliferis, posticè paululùm prolatis, ultimo latiore, crassiore: aperturá ovali; labio interno, extante, lævi; labio externo crasso, intùs levitèr crenulato; ad basin canalis tuberculo valido; canali aperto.*

Long. 1; lat. ex. var. ·40 poll.

Hab. ad mare Japonicum. Dr. Sibbald legit.

This singular shell has some of the characters of *Triton.*

Murex balteatus, Conch. Illustr. f. 83. *Mur. testá parvá, crassá, subrhomboideá, albo-rubescente, ad varices fusco-nigricante: spirá subproductá; anfractibus sex, angulatis: caudá breviusculá, exfoliatá, recurvá: varicibus sex, anticè inciso-fimbriatis, à tergo costatis; spinis brevibus, paululùm crispatis, unâ ad angulum posticum, deinde brevioribus quatuor, ad caudam duabus minutis, rectis: aperturá ovali; labio interno posticè prolato, anticè valdè extante; labio externo crenulato, extante; canali ferè clauso.*

Long. ·95; lat. ex. var. ·47 poll.

Testá juniore: caudá elongatá, validè ascendente.

Var. Testá breviore: varicibus validioribus: aperturá roseâ.

Hab. ad insulam Masbate, Philippinarum. H. Cuming legit.

The name given above has been applied to this shell by Dr. Beck, who, however, has not described it. Found in coral reefs.

Murex cyclostoma, Conch. Illustr. f. 100. *Mur. testâ rhomboideâ, subventricosá, pallidè griseo-fulvâ: spirá longitudine aperturam et canalem æquante; anfractibus quinque, exiguis, rotundatis, transversè costatis; suturis validis, excavatis: caudâ brevi, latá, recurvá, exfoliatá: varicibus sex, angulatis, crassis, magnis, utrinque costatis, anticè inciso-fimbriatis, posticè foveolatis, supernè subspinosis: aperturá ovali rotundatá, ferè integrá; labio interno lævi, extante; labio externo extùs crenulato; canali ferè clauso.*

Variat caudá elongatá, valdè recurvá: varicibus spinis crispis armatis.

Long. ·75; lat. ex. var. ·40; lat. var. incl. ·50.

Hab. ad insulam Bohol Philippinarum. H. Cuming legit.

The elongated, slender, elevated caudal canal, as well as the more distinct spines of the smaller shell, must be considered as a variation resulting partly from difference of age, partly from locality, and other circumstances. Sandy mud, 7 fathoms. – Loay.

Murex breviculus, Conch. Illustr. f. 37. *Mur. testá rhomboideá, brevi, ventricosá, albá, fulvo-fasciatá: varicibus quatuor, crassis, nodulosis, inter nodulos utrinque foveolatis: spirá brevi; anfrac-*

tibus rotundatis: aperturâ rotundatâ, ad marginem crenatâ: caudâ brevi, subitò recurvâ; canali ferè clauso.

Long. ·90; lat. ex. var. ·55.

Hab. —— ? Mus. G. B. S. Sen., H. Cuming, Stainforth.

Differing from *M. tetragonus*, *Brod.*, in the shortness of the shell, and in the caudal canal, which is turned abruptly over the back of the last whorl.

MUREX PERUVIANUS, Conch. Illustr. f. 116. *Mur. testâ fusiformi, subventricosâ, pallidè fulvâ, transversè costis fuscis, numerosis cingulatâ: varicibus novem; spinis numerosis ad angulum posticum crispatis, ad caudam duabus subelongatis, falcatis: spirâ elongatâ; anfractibus septem, rotundatis, posticè subplanatis: caudâ subelongatâ, exfoliatâ: aperturâ magnâ, posticè subangulatâ.*

Long. 1·20; lat. ·60.

Hab. ad Peruviam. Mus. H. Cuming.

MUREX NODULIFERUS, Conch. Illustr. f. 101. *Mur. testâ subrhomboideâ, crassâ, lævi, albo-lutescente: spirâ elongatâ; anfractibus sex, subangulatis; suturis inconspicuis, undatis: caudâ brevi, subexfoliatâ: varicibus sex, crassis, striatis, posticè obsoletis, lævibus; tuberculis nigrescentibus, ad angulum posticum uno subfrondoso, crasso, recurvo, crispato, minore anticè annexo, in medium anfractûs uno angusto, angulato, minore anticè annexo, ad caudam uno parvo: aperturâ luteâ subquadratâ; labio interno vix extante, lævi, anticè subcrenulato; labio externo angulato, intùs denticulato; canali latè aperto.*

Long. 1·10; lat. ex. var. 55 poll.

Hab. ad insulam Masbate. H. Cuming legit.

Found in coral reefs.

Mr. Gould commenced the exhibition of fifty new species of Birds from his Australian collection, and proposed to bring forward the remainder of them at the succeeding meetings of the Society; those now exhibited were three new species of small Grass Parrakeets (*Euphema* of Wagler); for these he proposed respectively the names *Eu. splendida, aurantia,* and *petrophila.*

EUPHEMA SPLENDIDA. *Euph. facie et plumis auricularibus intensè cæruleis: pectore rufescenti-aurantiaco: humeris et alarum tectricibus lazulino-cæruleis.*

Face and ear-coverts deep indigo-blue, becoming lighter on the latter; all the upper surface grass-green; shoulders above, and wing-coverts beautiful lazuline blue; shoulders beneath deep indigo-blue; primaries and secondaries black, the former margined externally with blue, the latter with green; two centre tail-feathers dark brown; the remaining feathers black on the base of the internal webs, green on the base of external webs, and largely tipped with bright yellow; chest rich reddish orange; under surface yellow, becoming green on the flanks.

Total length, 8 inches; wing, $4\frac{1}{2}$; tail, $4\frac{1}{2}$; tarsi, $\frac{1}{2}$.

Hab. Western Australia.

Euphema aurantia. *Euph. vittâ frontali lazulino-cæruleâ; loris viridibus: abdomine maculâ grandi splendidè aurantiacâ ornato.*

Male.—Frontal band blue, margined before and behind with a very faint line of greenish blue; crown of the head and all the upper surface deep grass-green; shoulders, many of the secondaries, and outer edges of the primaries deep indigo-blue; lores, cheeks and breast yellowish green, passing into greenish yellow on the abdomen and under tail-coverts, the centre of the abdomen being ornamented with a large spot of rich orange; two centre tail-feathers green; the next, on each side, blackish brown on the inner, and green on the outer webs; the remainder blackish brown on their inner, and green on their outer webs, and largely tipped with bright yellow; irides very dark brown, becoming lighter on the under side; legs and feet dull brown.

Female.—Possesses the orange spot, but in her it is neither so extensive nor so brilliant.

Total length, 8½ inches; wing, 4¼; tail, 4¼; tarsi, ½.

Hab. Van Diemen's Land and the Actæon Islands in D'Entrecasteaux Channel.

Euphema petrophila. *Euph. vittâ frontali intensè cæruleâ; loris et spatio circum oculos sordidè viridibus.*

Frontal band deep indigo-blue, bounded before and behind with a very narrow line of dull verditer-blue; lores and circle surrounding the eye dull verditer-blue; all the upper surface yellowish olive-green; under surface the same, but lighter, and passing into yellow, tinged with orange on the lower part of the abdomen; under surface of the shoulder indigo-blue; a few of the wing-coverts greenish blue; primaries brownish black on their inner webs, and deep indigo-blue on the outer; two centre tail-feathers bluish green; the remainder of the feathers brown at the base on the inner webs, green at the base on the outer webs, and largely tipped with bright yellow; irides dark brown; bill blackish brown; feet flesh-brown.

Total length, 8 inches; wing, 4¼; tail, 4½; tarsi, ½.

Hab. Western Australia.

Two new and highly interesting species of *Climacteris* were characterized as *Climacteris erythrops* and *C. rufa*; and Mr. Gould observed that four species of this genus now formed part of the Australian fauna.

Climacteris erythrops. *Clim.* Mas: *loris et spatio circum oculos rufescenti-castaneis; gulâ albidâ: pectore cinereo.*

Fœm. *plumis pectoris ferrugineis, singulis lineâ albâ centrali notatis, distinguenda.*

Male.—Crown of the head blackish-brown, each feather margined with grayish brown; lores and a circle surrounding the eye reddish chestnut; back brown; sides of the neck, lower part of the back, and upper tail-coverts, gray; primaries blackish brown at the base, and light brown at the tip, all but the first crossed in the centre by a broad band of buff, to which succeeds another broad band of blackish brown; two centre tail-feathers gray, the remainder blackish brown, largely tipped with light gray; chin dull white, passing into grayish brown on the chest; the remainder of the under surface grayish brown, each feather having a broad stripe of dull white, bounded on either side with black running down the centre; the lines becoming blended, indistinct, and tinged with buff on the centre of the abdomen; under tail-coverts buffy white, crossed by irregular bars of black; irides brown; bill and feet black.

The *female* differs in having the chestnut marking round the eye much richer, and in having, in place of the grayish brown on the breast, a series of feathers of a rusty red colour, with a broad stripe of dull white down their middles, the stripes appearing to radiate from a common centre: in all other particulars her plumage resembles that of the male.

Total length, 5 inches; bill, $\frac{7}{8}$; wing, $3\frac{1}{2}$; tail, $2\frac{5}{8}$; tarsi, $\frac{3}{4}$.

Hab. New South Wales.

Climacteris rufa. *Clim. gutture plumis auricularibus, et abdomine ferrugineis.*

Male.—Crown of the head and all the upper surface and wings, dark brown, tinged with rufous on the rump and upper tail-coverts; primaries brown, all but the first crossed by a broad band of rufous, to which succeeds a second broad band of dark brown; two centre tail-feathers brown, indistinctly barred with a darker hue; the remainder pale rufous, crossed by a broad band of blackish brown, and tipped with pale brown; line over the eye, lores, ear-coverts, throat, and under surface of the shoulder rust-brown; chest crossed by an indistinct band of rufous brown, each feather with a stripe of buffy white, bounded on each side with a line of black down the centre; the remainder of the under surface deep rust-red, with a faint line of buffy white down the centre of each feather, the white line being lost on the flanks and vent; under tail-coverts light rufous, with a double spot of blackish brown at intervals along the stem; irides dark reddish brown; bill and feet blackish brown.

Female rather less in size; in colour the same as the male, but much lighter, without the bounding line of black on each side of the buff stripes on the breast, and having only an indication of the double spots on the under tail-coverts.

Total length, 6 inches; bill $\frac{7}{8}$; wing, $3\frac{1}{2}$; tail, $2\frac{5}{8}$; tarsi, $\frac{7}{8}$.

Hab. Western Australia.

And a new and beautiful *Ocypterus*, by far the best-marked species of the genus, as

Ocypterus personatus. *Ocypt. gulá et plumis auricularibus nigris: corpore subtùs in toto cinereo.*

Face, ear-coverts and throat jet black, bounded below with a narrow line of white; crown of the head sooty black, gradually passing into the deep gray which covers the whole of the upper surface, wings and tail; the latter tipped with white; all the under surface very delicate gray; thighs dark gray; irides blackish brown; bill blue at the base, becoming black at the tip; legs and feet mealy bluish gray. Total length, 6½ inches; bill, 1; wing, 5; tail, 3; tarsi, ¾. About the size and having much the contour of *Ocypt. superciliosus*. It is one of the finest and best-marked species of the genus, the jet black colouring of the face and throat distinguishing it from every other. The sexes are nearly alike in colour.

Hab. Southern and Western Australia.

PTILOTIS PLUMULUS. *Ptil. loris nigris: plumis auricularibus fuscis, infra has penicillis duobus, uno angustissimo et nigro, altero lato et nitidè flavo.*

Crown of the head and all the upper surface olive-yellow, approaching to gray on the back; lores black; ear-coverts, throat and under surface yellowish gray, faintly striated with a darker tint; behind the ear two tufts, the upper of which is narrow and black, the lower more spread over the sides of the neck, and of a beautiful yellow; primaries and tail-feathers brown, margined with bright olive-yellow; irides very dark reddish brown; bill black; legs and feet apple-green.

Total length, 4¾ inches; bill, ¾; wing, 3¼; tail, 2¾; tarsi, ¾.

Hab. Western Australia.

HEMIPODIUS VELOX. *Hem. gutture, pectore et lateribus pallidè arenaceo-fuscescentibus; facie, vertice, et plumis auricularibus castaneo-rufis.*

Female.—Head, ear-coverts, and all the upper surface, chestnut-red; crown of the head with a longitudinal buff mark down the centre; feathers of the back, rump, scapularies, and sides of the chest, margined with buff, within which is a narrow line of black running in the same direction; the feathers of the lower part of the back also crossed by several narrow irregular bands of black; primaries light brown, margined with buff on their internal edges; throat, chest, and flanks sandy buff, passing into white on the abdomen; bill horn-colour; irides straw-white; legs and feet yellowish white.

Total length, 5½ inches; bill, ½; wing, 3; tarsi, ¾.

Hab. Interior of New South Wales.

The males are much smaller.

HEMIPODIUS PYRRHOTHORAX. *Hem. gutture, pectore et lateribus arenaceo-rufis, faciei plumis, nec non aurium tectricibus, albis, nigro-marginatis.*

Female.—Crown of the head dark brown, with a line of buff down the centre; feathers surrounding the eye, ear-coverts, and sides of the neck, white, edged with black; back and rump dark brown, transversely rayed with bars and freckles of buff and black; wings paler, edged with buff, within which is a line of black; primaries brown, margined with buff; throat, chest, flanks, and under tail-coverts sandy red, passing into white on the centre of the abdomen; bill horn-colour; irides straw-yellow; feet yellowish white.

Total length, 5½ inches; bill, $\frac{9}{16}$; wing, 3; tarsi, ¾.

Hab. Interior of New South Wales.
Males are much smaller.

Mr. Gould also exhibited at this Meeting certain specimens of *Dasyurus*. The *D. Maugei* and *D. viverrinus* of authors, he stated, were the same species, a fact which he ascertained by finding in the same litter both the black and grey varieties: he then proceeded to point out the characters of a new species of *Dasyurus*, which he proposed to name

Dasyurus Geoffroii. *Das. fuscus, flavo lavatus; caudâ elongatâ, dimidio apicali nigro; corpore subtùs albescente, supra et ad latera albo maculato; pedibus posticis halluce parvo instructis.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin	15	0
———— *caudæ*	11	6
———— *tarsi digitorumque*	2	6
———— ab apice rostri ad basin auris	2	7
———— *auris*	1	2

Hab. Liverpool Plains.

Like the *D. macroura*, the present species possesses a small thumb to the hind foot, a character which serves to distinguish these species from the *D. Maugei*. The *D. Geoffroii* is intermediate in its colouring between the *D. Maugei* of Geoffroy and the *D. macroura*; it resembles the latter in having a long and not very bushy tail, but is distinguishable by there being no spots on this part: the white spots on the head and body are smaller than in either of the species mentioned.

A small Rodent, supposed to be identical with the *Dipus Mitchellii*, was exhibited by Mr. Gould, as well as a skin and skeleton of the *Hapalotis albipes* of Lichtenstein.

Mr. Ogilby, referring to his paper on these two animals in the 18th volume of the Transactions of the Linnæan Society, pointed out the general conformity of reasoning there adduced in support of the rank and affinities of the latter species with the characters of the specimen exhibited by Mr. Gould. The dentition and structure of the skull, indeed, approach more nearly to that of the typical Rats (and closely agrees with *Hapalotis*) than the Jerboas; but the animal is a true Rodent, and from the conformation of the extremities and other influential external organs, appears, as there stated, to represent in Australia the Jerboas and Gerbilles of the Old World.

The eyes are apparently rather large; the ears are very large, broad at the base, and somewhat attenuated at the apex; the fore-legs are proportionately small; the fore-feet are furnished with four toes, and a rudimentary inner toe having a small rounded nail; the hind-legs and tarsi are long; there are five toes to the feet, of which the three central ones are very long; the outer and inner toes are small, especially the latter; the metatarsal bones are evidently not consolidated, as in the Jerboas: the tail exceeds the head and body in length (the latter being measured in a straight line), and exhibits scales and minute interspersed hairs at the base, like the Rats; but the apical third is furnished with long hairs, averaging rather more than half an inch in length; those which spring from the upper surface are of a brown-black colour, but on the under surface they are white: the fur of the animal is rather long, and very soft; the general colour of that of the upper surface of the head and body is brownish yellow, freely pencilled with black; on the sides of the body a yellowish hue prevails; the whole of the under parts, as well as the feet, are white; the hairs on both the upper and under parts of the body are of a deep slate-grey at the base. The dimensions of this interesting little animal are as follows:—

	inches.	lines.
From nose to root of tail	5	6
———— ear	1	2
Length of tail	5	7
———— ear................	0	10
———— *tarsus*	1	2

It was procured by Mr. Gould from Western Australia.

November 24, 1840.

William Yarrell, Esq., Vice-President, in the Chair.

A Letter from Mr. Frembly, R.N., Corresponding Member Z.S., dated Gibraltar, November 13th, 1840, was read. In this letter Mr. Frembly states that he had forwarded for the Society's Museum a species of Petrel, rarely met with at Gibraltar, and that he is in expectation of a collection from Brazil, from which he will select some specimens to present to the Society.

In a letter from Charles Clarke, Esq., dated Colwich Molesley, November 2nd, 1840, which was read, that gentleman, at the request of the Curator, furnishes an account of the habits of a bird recently presented by him to the Society. The bird alluded to "is a native of the mountain-forests of Cuba, never being seen nor heard in the plains. It is named the 'Musician' by the coffee-planters, who invariably, in the south-eastern parts of the island, select the mountains for the site of their plantations, from the well-known fact, that the higher the elevation, *cæteris paribus*, the better the coffee; and this rule may be said to hold good in Cuba, to the height of 3000 feet above the level of the sea.

"The presence of this bird, in land intended to be cleared, is always hailed as highly satisfactory, as indicative of a cool temperature, and therefore of a climate suited for the production of high-priced coffee.

"The specimen presented to the Society was shot in a mountain-halt of forest named 'Brazos de Cauto,' varying perhaps from 1500 to 2500 feet of elevation, and it is found in all parts of that range. The thermometer rises in the lowest parts to 80° Fahrenheit in the summer heats (whilst it will stand in Santiago de Cuba at the same time at 90°); below this, and of course in a higher temperature, the bird is not known to exist.

"It confines itself exclusively to the woods, and takes its name of 'Musician' from its notes being very similar to those of the flute: it possesses only a few notes, and repeats nearly an exact repetition of its rather melancholy pipe at intervals, when in song, of two or three minutes.

"It is very rarely seen, although not a rare bird in many spots; repeatedly have I spent five to ten minutes along with my attendants, fellows of the most piercing vision, in vain efforts to discover the little dusky warbler piping above our heads, and that at no great height; but securely hidden, perhaps designedly, in its tangled and leafy covert.

"I never shot any other specimen, and never have seen more than one or two others during a residence in the Cuba woods of eighteen months.

"In conclusion I may observe, that I have always understood this bird to exist in the highest parts of the mountains of Cuba, estimated to reach 3500 feet; and when the thermometer falls in winter during the northern, to a degree little elevated, I should imagine, above the freezing-point. I have seen the thermometer, at an elevation of perhaps 1800 or 1900 feet, fall to 47° during a heavy northern last January."

The following memoir, "On the Blood-corpuscles of the common Paradoxure (*Paradoxurus Bondar*[*])," by G. Gulliver, Esq., was next read.

"Referring to my notes concerning the red particles of this animal, I was rather surprised to find that they appeared to be quite peculiar in size, when compared with the particles of the other species of the order *Feræ*. Hence I have been led to examine again the blood-corpuscles of the common Paradoxure, and those of two other species of the genus. The result confirms the general accuracy of my first observations, and as the subject appears to me both novel and interesting, I am induced to bring it briefly before the Society.

"The following measurements are expressed in fractional parts of an English inch. The common-sized corpuscles are first noted, then those of small and large size, and lastly the average deduced from a computation of the whole.

"1. Common Paradoxure (*Paradoxurus Bondar*).

1·5665
1·6000
1·7110
1·4570

Average . . 1·5693

"2. Two-spotted Paradoxure (*Paradoxurus binotatus*, Temm.).

1·4572
1·4800
1·5052
1·6000
1·3555

Average . . 1·4660

"3. White-whiskered Paradoxure (*Paradoxurus leucomystax*, Gray).

1·4500
1·4365
1·4000
1·6000
1·3200

Average . . 1·4236

[*] The animal in question is marked at the Zoological Gardens *P. typus*, F. Cuv.; and by this name I have previously mentioned it. But I have lately been informed that it is the *P. Bondar* of authors.

"From a comparison of these measurements with the notes of numerous others, published in the Philosophical Magazine for January, February, March and August, 1840, it will appear that, although the corpuscles of the Two-spotted and of the White-whiskered Paradoxure are not very remarkable for minuteness, yet the corpuscles of the common Paradoxure are not only smaller than the red particles, which have yet been examined, of any other carnivorous animal, but so minute as to approach to those of the goat in size.

"The blood-corpuscles of the latter animal were the smallest known to physiologists previously to my announcement in the Dublin Medical Press for November, and in the Philosophical Magazine for December 1839, of the singularly minute size of the corpuscles of the Napu Musk Deer (*Moschus Javanicus*); and I may notice, that another examination of the very remarkable blood-discs of this little ruminant has fully confirmed the accuracy of my former observations.

"It has long since been observed, that the size of the blood-corpuscles does not seem to be influenced by that of the animal. Thus Hewson figures them of the same magnitude in the ox, cat, ass, mouse, and bat. If, however, we compare a great number of measurements, taken from the corpuscles of different animals of the same order, it will appear generally that the larger species have comparatively large blood-corpuscles, and *vice versâ*. For numerous confirmations of this rule, if it may be so called, it will be sufficient to refer to my measurements in the Philosophical Magazine before quoted. Compare, for example, among the Rodents, the blood-corpuscles of the Capybara, the Coypu and Hoary Marmot, with those of the Squirrels; and among the Ruminants the large corpuscles of the Sambur, Wapiti, and Moose Deer, with the small corpuscles of the Napu Musk Deer, Sheep, and Goat. Many exceptions, however, will be found to the rule, particularly in the order *Feræ**; but as I propose, on a future occasion, to treat more at length on the subject, it is merely mentioned now with the view of suggesting what may appear to be a curious and interesting inquiry."

A paper by W. J. Broderip, Esq., was read, in which the author proceeds with his descriptions of the new species of shells collected in the Philippine islands by H. Cuming, Esq.

HELIX (COCHLOSTYLA) TICAONICA. *Hel. testâ subpyramidali, truncatâ, anfractibus* 5 *ventricosis, ultimo longe maximo, apice subcomplanato, lineis incrementi subobliquis, levissimè striato; aperturâ modicâ.*

Var. *a. Brunnea, strigis obliquè longitudinalibus latis albis picta; apice subpurpureo; aperturâ albidâ; labii limbo subpurpureo.*

Var. *b. Brunnea, strigis obliquè longitudinalibus albis creberrimis fucata; fasciâ basali latâ obscurâ; labii limbo subpurpureo.*

In this variety the broad white stripes of the body-whorl are so frequent, that they run into each other, leaving only brown interstices here and there.

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* Vide Proc. Zool. Soc., May 25, 1841.

Var. *c. Brunneo-nigricans, strigis lâtis et maculis irregularibus albis rarioribus ornatis; labii limbo subpurpureo.*

In this variety, the stripes, so far as they go, are very distinct; but on the last part of the body-whorl they are broken up and interrupted so as to form spots. The ground-colour of the body-whorl is very dark chestnut-brown, with a darker, but very obscure, broad basal band.

Var. *d. Flavescens strigis albis fucata, fasciâ latâ basali brunneo-nigricante; labii limbo purpureo-nigricante.*

Var. *e. Ex albido flavescens seu subvirescens; anfractibus* 2 *ultimis strigis latis albis ornata; anfractu basali lineis transversis basalibus interruptis subobscuris vittato; aperturâ albâ; labii limbo ochraceo-rubro; apice roseo.*

Var. *f. Ex albido flavescens seu virescens; anfractu ultimo strigis latis albis interdum subangulatis ornato; fasciâ basali brunneo-lineatâ, latâ; aperturâ albâ; labii limbo vix ochraceo-rubescens.*

In this variety hardly any stripes are visible, except upon the body-whorl.

Var. *g. Ex albido pallidè et obscurè virescens, fasciâ basali lineatâ latâ; aperturâ albâ; columellâ violaceo-subpurpureâ; labii limbo vix pallidissimè rubente.*

Var. *h. Sordidè virescens lineis transversis obscuris vittata; fasciâ basali sordidè brunneâ latâ; aperturâ albâ; columellâ violascente; labii limbo pallidè rubente.*

Var. *i. Cinerascens; fasciâ basali latâ, lineatâ, brunneâ; aperturâ sordidè albâ; labii limbo brunneo-nigricante.*

The ground-colour beneath the epidermis is rich brown, which is exposed where the epidermis is abraded.

Habitant varietates a, b, c, d, e, f, g, h, et *i,* in insulâ Ticao.

Legit H. Cuming in sylvis.

Var. *k. Grandior, ex albido cinerascens lineis transversis obscurè brunneis cincta; fasciâ basali lineato-vittatâ brunneâ latâ; aperturâ albidâ; labii limbo purpurascente.*

In this variety the ground-colour is brown: the riband-like, broad basal band is dark brown.

Var. *l. Productior, e brunneo cinerascens, vittis brunneo-nigricantibus cincta; fasciâ basali latâ brunneo-nigricante; aperturâ obscurè purpurascente; labii limbo nigricante.*

The ground-colour of this variety is brown, which becomes deeper on the lower whorls, and is exposed where the epidermis is abraded.

Habitant varietates k, et *l,* in insulâ Masbate.

Legit H. Cuming in sylvis.

In none of the varieties do the markings appear before the third whorl, and in several only on the two last.

This species varies in size from about $2\frac{3}{4}$ inches long by 2 broad, to $1\frac{6}{8}$ inch long by $1\frac{1}{2}$ inch broad. (W. J. B.)

BULINUS GUIMARASENSIS. *Bul testâ obovatâ, nitidè glabrâ, anfrac-*

tibus 5 subventricosis; lineis incrementi obliquè longitudinalibus striatâ; aperturâ et labii limbo albis.

Var. *a. Ex-albido-subvirescens; fasciâ basali obscuriore; apice subroseo.*

Var. *b. Anfractibus superioribus, fasciâ suturali, ultimo fasciâ subbasali castaneo cinctis; apice castaneo-roseo.*

This species is nearly allied to *Bulinus citrinus*, but differs from it in many points. *B. Guimarasensis* is without transverse striæ, and the whorls are comparatively ventricose. In *B. citrinus* all the striped varieties which I have seen are marked longitudinally.

The var. *b.* of *Bul. Guimarasensis* has a narrow chestnut transverse line very near the suture of the body-whorl, the base of which body-whorl, below the transverse band, becomes greenish. A brown stripe adjoins and borders the columella.

Var. *a.* is $2\frac{1}{8}$ inches long by $1\frac{1}{8}$ inch broad.
Var. *β.* is less.
Hab. in insulâ Guimaras.
Legit H. Cuming in sylvis. (W. J. B.)

Bulinus camelopardalis. *Bul. testâ productâ, gracili, subpupiformi, subdiaphanâ, anfractibus 6 haud ventricosis, ultimo cæteris longiore; aperturâ subovatâ, mediocri; lineis incrementi creberrimè substriatâ; ex albido flavescente, strigis fulvis, distinctis sublongitudinalibus ornatâ; aperturâ albidâ, labii limbo nigrocastaneo.*

Long. 2 poll. circiter; lat. $\frac{7}{8}$ poll.
Hab. ad Sibonga in insulâ Zeba.
Legit H. Cuming dumis adhærentes. (W. J. B.)

Bulinus Diana. *Bul. testâ valdè productâ, subdiaphanâ, anfractibus 7 haud ventricosis, ultimo cæteros interdum haud æquante, pallidè flavâ strigis albidis creberrimis fucatâ; aperturâ et apice albis.*

Var. *a.* long. $2\frac{2}{8}$; lat. 1 poll.
Var. *b. Flava haud strigata, aperturâ et apice albis.*
Legit H. Cuming.

The first variety was found by Mr. Cuming on the leaves of bushes at Tanhay in the isle of Negros.

The second or unstriped variety was taken by him in the island of Siquijor on leaves of trees. Among the latter, some faintly-striped individuals show the transition from one variety to the other. The young of the striped variety have stripes; but the young of the unstriped variety are of a uniform pale yellow. (W. J. B.)

Bulinus Calista. *Bul. testâ diaphanâ, anfractibus 7 subventricosis pallidè flavâ albido strigatâ; apice subroseo vel roseo-castaneo; labii limbo castaneo-purpurascente.*

Var. *a.* long. $2\frac{1}{8}$; lat. $1\frac{1}{8}$ poll.

Intervals in the whitish epidermis leave the yellow ground-colour in sufficiently well-defined longitudinal irregular stripes, which are often zigzagged. Found on bushes.

Var. *b. Gracilior, nana.* Long. $1\frac{7}{8}$; lat. $\frac{5}{8}$ poll.

The shell of this variety is rather thicker. Among them some occur with the lip barely tinged with ochraceous red and a white apex. Found on the leaves of trees.

Var. *c. Flava; apice roseo, labii limbo castaneo.*

Long. 2; lat $\frac{11}{12}$ poll.

Found on the leaves of bushes. Some have an obscure narrow transverse band on the body-whorl.

Var. *d. Subflava, epidermide albo-cinerascente; fasciâ basali nitidè flavâ; apice et labii limbo albis.*

Long $1\frac{7}{8}$; lat $1\frac{1}{8}$ poll.

Found on the leaves of bushes. Among these some occur which still retain the coloured lip and tinged apex. In the very young state the shell is perfectly transparent.

Hab. ad Tanhay in insulâ Negros.

Legit H. Cuming.

The last variety bears a strong resemblance to *Bulinus Diana*; nor should I be at all surprised to see some intervening varieties that would lead to the conclusion that *Bulini Diana* and *Calista* belong to the same species. (W. J. B.)

Bulinus Calypso. *Bul. testâ diaphanâ, subventricosâ, subpyramidali, anfractibus 5, lineis incrementi levissimè striatis; columellâ subangulatâ, albidâ, tæniis virescentibus cinctâ; apice et labii limbo roseo-purpurascentibus.*

Long. $1\frac{1}{2}$; lat $\frac{7}{8}$ poll.

Hab. ad Tanhay insulæ Negros.

Legit H. Cuming in sylvis.

A dark rosy-purplish stripe borders the columella, which is itself tinged with red. I have seen but two specimens, one with an injured lip, and in that the columella is not subangulated as it is in the more perfect one. (W. J. B.)

Bulinus Dactylus. *Bul. testâ valdè productâ, attenuatâ, anfractibus 7, ultimo cæteros æquante, brunneâ, epidermide cinerascente; aperturâ ovatâ, carneâ vel albidâ; labii limbo castaneo-purpurascente.*

Long. $2\frac{7}{8}$; lat. $1\frac{1}{8}$ poll.

Hab. in montibus Tayabas insulæ Luzoniæ.

Legit H. Cuming foliis arborum adhærentes.

Through the ashy epidermis the brown ground-colour appears in most of the specimens in the shape of obscure longitudinal stripes: in very old specimens scarcely any striping is apparent. The brown ground-colour is well shown near the aperture, where the attrition of the animal has exposed it. Very old shells are all but opake: younger ones are subdiaphanous. There is in all that I have seen an obscure brown fillet towards the base of the body-whorl. (W. J. B.)

Bulinus Boholensis. *Bul. testâ elongatâ, graciliore, subdiaphanâ; anfractibus 6, lineis incrementi obliquè striatis; ochraceo-cine-*

rascente strigis longitudinalibus angulatis distinctis ornatâ; labii limbo castaneo-nigricante.

Var. *a. Gracilis strigis valdè distinctis anfractuum parte superiore suturam juxta castaneo-nigricante punctatâ.*

Long. $1\frac{5}{8}$; lat. $\frac{7}{8}$ poll.

Hab. ad Loon insulæ Bohol.

Var. *b. Gracilior, strigis creberrimis valdè angulatis.*

Long. $1\frac{5}{8}$; lat. $\frac{6}{8}$ poll.

Hab. cum præcedente.

Var. *c. Ventricosior, strigis valdè distinctis, subangulatis.*

Long. $1\frac{6}{8}$; lat. 1 poll.

Hab. ad Loboc insulæ Bohol.

Var. *d. Strigis rarioribus obscurioribus.*

Long. $1\frac{7}{8}$; lat. $\frac{5}{8}$ poll.

Hab. ad Baclayon insulæ Bohol.

Legit H. Cuming arborum foliis adhærentes.

The brown ground-colour appearing through the ochraceous-cinerascent epidermis produces the stripes of this elegant shell. A small portion only of the ground-colour is exposed by the attrition of the animal near the mouth of the shell, which is whitish or bluish-white, bordered with the dark chestnut of the lip. (W. J. B.)

BULINUS BULLULA. *Bul. testâ ovato-rotundatâ, diaphanâ, albidâ, anfractibus* 4 *ventricosis, lineis incrementi obliquè striatis; aperturâ magnâ, subumbilicatâ.*

Long $1\frac{1}{8}$; lat. 1 poll.

Hab. in insulâ Mindoro.

Legit H. Cuming.

A milk-white line runs round the sutures. (W. J. B.)

Mr. Gould resumed the exhibition of his new species of Australian birds, and characterized the following species:—

EPHTHIANURA TRICOLOR. *Ephth. vertice, pectore, tectricibusque caudæ coccineis; gutture albo.*

Male.—Crown of the head, upper tail-coverts, breast and abdomen bright scarlet; lores, line above and beneath the eye, ear-coverts, occiput and back dark brown; wings brown, each feather margined with brownish white; tail dark brown, each feather having a large spot of white on the inner web at the tip; chin, throat and under tail-coverts white; irides straw-white; bill and feet blackish brown.

Female similar in colour, but having only a slight wash of the scarlet colouring, except on the upper tail-coverts, where it is as brilliant as in the male.

Total length, $3\frac{1}{4}$ inches; bill, $\frac{9}{16}$; wing, $2\frac{3}{4}$; tail, $1\frac{1}{2}$; tarsi, $\frac{3}{4}$.

Hab. —— ?

MYZANTHA OBSCURA. *Myz. fronte flavescente-olivaceo; gutture, uropygio, et corpore subtùs cinereis,—plumis pectoralibus lunulâ apicem versus notatis, et ad apicem pallidè cinereis.*

Forehead yellowish olive; lores, line beneath the eye and ear-coverts black; head and all the upper surface dull grey, with an indistinct line of brown down the centre of each feather, giving the whole a mottled appearance; wings and tail brown, margined at the base of the external webs with wax-yellow, the tail terminating in white; throat and under surface dull grey, becoming lighter on the lower part of the abdomen and under tail-coverts; the feathers of the breast with a crescent-shaped mark of light brown near the extremity, and tipped with light grey; irides dark brown; bare skin round the eye, bill, and bare patch on each side of the throat, bright yellow; legs and feet dull reddish-yellow; claws dark brown.

Total length, $9\frac{1}{2}$ inches; bill, $1\frac{1}{4}$; wing, $5\frac{1}{2}$; tail, $4\frac{5}{8}$; tarsi, $1\frac{1}{8}$.

Hab. Western Australia.

Ptilotis sonorus. *Ptil. loris et strigâ per oculos ductâ, ad colli latera, nigris plumis auricularibus flavis,—et ponè has, notâ sordidè albâ;—gutture et abdomine pallidè flavescenti-cinereis, fusco-striatis.*

Crown of the head and all the upper greyish olive; wings and tail brown, margined on their external webs with greenish yellow; lores, space around the eye and broad line down the sides of the neck black; ear-coverts pale yellow, behind which is an obscure spot of greyish white; throat and under surface pale yellowish grey striated with light brown; irides dark brown; bill black; legs and feet greenish grey. The female like the male in colour, but smaller in all her dimensions.

Total length, $7\frac{1}{2}$ inches; bill, 1; wing, $3\frac{3}{4}$; tail, $3\frac{1}{2}$; tarsi, 1.

Hab. South and Western Australia.

Ptilotis cratitius. *Ptil. vertice cinereo,—loris, strigâ superoculari, et plumis auricularibus nigris,—infrà et ponè has, penicillo angusto, et flavo; a rictu per gulæ latera ducta appendice nudo, corneo, ad marginem inferiorem libero, et bellè e gilvo cærulescente.*

Crown of the head grey; all the upper surface olive-green; wings and tail brown, margined with greenish yellow; lores, a large space surrounding the eye and the ear-coverts black, below which is a narrow line of bright yellow; from the gape, down each side of the throat for five-eighths of an inch, a naked fleshy appendage, free at the lower end, of a beautiful lilac colour and very conspicuous in the living bird; anterior to this is a tuft of bright yellow feathers; throat and under surface olive-yellow; irides and eyelash black; bill black; feet blackish brown tinged with olive.

The female is similar to the male, but smaller.

Total length, 7 inches; bill, $\frac{7}{8}$; wing, $2\frac{1}{2}$; tail, $3\frac{1}{2}$: tarsi, $\frac{7}{8}$.

Hab. Interior of South Australia and Kangaroo Island.

Glyciphila albifrons. *Glyc. facie albâ; gutture nigro, albo minutè adsperso; vertice nigro, plumis albo angustè marginatis.*

Forehead, lores and a narrow ring round the eye, and a narrow line running from the angle of the lower mandible white; crown of the head black, each feather slightly margined with white; ear-coverts silvery blackish gray, behind which an irregular line of white; all the upper surface brown, irregularly margined with white, producing a mottled appearance; wings and tails brown, the primaries margined externally with yellowish green; chin and throat brownish black, the former minutely speckled with white; under surface of the wing buff; chest and abdomen white, striped with blackish brown on the flanks; irides dark brown; bill black; feet blackish brown.

The female is like the male in plumage, but smaller in size.

Total length, $5\frac{3}{4}$ inches; bill, $\frac{3}{4}$; wing, $3\frac{1}{4}$; tail, $2\frac{3}{4}$; tarsi, $\frac{7}{8}$.

Hab. Western Australia.

Meliphaga mystacalis. *Mel. vertice et gutture nigris; strigá superoculari angustá, albá; plumis auricularibus densis, albis, et penicillum posticè acutum efficientibus.*

Head, chin and throat black; over the eye a narrow line of white; ears covered by a conspicuous tuft of white feathers, which are closely set and terminate in a point towards the back; upper surface brownish black, the feathers edged with white; under surface white, with a broad stripe of black down the centre of each feather; wings and tail blackish brown, conspicuously margined with bright yellow; irides brown; bill black; feet blackish brown.

Total length, $6\frac{1}{2}$ inches; bill, 1; wing, 3; tail, $2\frac{3}{4}$; tarsi, .

Hab. Western Australia.

Nearly allied to *Meliphaga sericea.*

Platycercus Adelaidæ. *Plat. vertice, pectore, abdomine medio, crissoque coccineis; lateribus viridescenti-flavis; uropygio sordidè olivaceo-flavo.*

Fully adult male.—Crown of the head, lores, sides of the neck, breast and all the under surface scarlet, passing into pale greenish yellow on the flanks; cheeks and wing-coverts light lazuline blue; primaries deep blue, passing into black at the extremity; back of the neck yellowish buff; back black, each feather broadly margined with greenish yellow, some of these marginations tinged with blue, others with scarlet; rump and upper tail-coverts dull greenish yellow, the latter tinged with scarlet; two centre tail-feathers greenish blue; the remainder deep blue at the base, gradually becoming lighter until almost white at the tip; irides brown; bill horn-colour; feet grayish brown.

Total length, $13\frac{1}{2}$ inches; wing, 7; tail, 8; tarsi, $\frac{3}{4}$.

Hab. South Australia.

This species is subject to great change from youth to maturity; during the first few months it is almost wholly green, and this gradually gives place to scarlet on the head, rump, under surface and the margins of the back-feathers.

Aquila morphnoïdes. *Aq. capite cristá suboccipitali brevi, ornato; facie nigrescente: corpore subtùs rufo: plumis et pectoris et abdominis strigá centrali nigrá notatis.*

Face, crown and throat blackish brown, tinged with rufous, giving it a striated appearance, bounded in front above the nostrils with whitish; feathers at the back of the head, which are lengthened into a short occipital crest, back of the head, back, and sides of the neck, all the under surface, thighs and under tail-coverts rufous, all but the thighs and under tail-coverts with a stripe of black down the centre of each feather; back, rump and wings brown, the centre of the wing lighter; primaries brownish black, becoming darker at the tip, and barred throughout with grayish buff, which is conspicuous on the under surface, but scarcely perceptible on the upper, except at the base of the inner webs; under surface of the wing mottled with reddish brown and black; tail mottled grayish brown, crossed by seven or eight distinct bars of blackish brown, the tips being lighter; cere and bill lead-colour, passing into black at the tip; eye reddish hazel, surrounded by a narrow blackish brown eyelash; feet and toes very light lead-colour.

Total length, $21\frac{1}{2}$ inches; bill, $1\frac{3}{4}$; wing, 15; tail, $9\frac{1}{2}$; tarsi, $2\frac{3}{4}$.

This species is very robust, and although but a small bird, is in every respect a true *Aquila*. It is nearly allied to, but much stouter than *Aquila pennata*.

Hab. Yarrundi on the Upper Hunter, New South Wales.

Buteo melanosternon. *B. rostro grandi, et elongato: gulá, pectore et abdomine nigris; primariis ad basin subtùs albis; caudá cinereá.*

Crown of the head, face, chin, chest and centre of the abdomen, deep black, passing into chestnut-red on the flanks, thighs and under tail-coverts; back of the head chestnut-red, becoming black in the centre of each feather; shoulders whitish buff; all the upper surface deep brownish black, margined with chestnut-red; primaries white at the base, deep black for the remainder of their length; cere and base of the bill purplish flesh-colour, passing into black at the tip; irides wood-brown; feet white tinged with lilac.

Total length, 22 inches; bill, $2\frac{1}{2}$; wing, $19\frac{1}{2}$; tail, $8\frac{1}{2}$; tarsi, $2\frac{5}{8}$.

This species is nearly allied to the Red-tailed Hawk of North America, and the *Buteo Jackal* of South Africa, but from both of these it may be distinguished by the jet-black colouring and by its more lengthened bill. During flight the white at the base of the primaries is very conspicuous, and is strikingly contrasted with the black of the chest and the brown of the other part of the wings.

Hab. Interior of New South Wales.

Falco hypoleucos. *Fal. corpore supernè cinereo-fusco: singulis plumis margine dilutiore cinctis: corpore subtùs albo; plumis strigá fuscá apud apicem in maculam latam desinente, ornatis.*

Head and all the upper surface grayish brown, the feathers of the head having a fine stripe of black down the centre, the remainder dark brown in the centre; chin and all the under surface white, with a fine line of black down the centre, passing into a spatulate form near the tip; outer webs and tips of the primaries brownish black, the extreme ends being whitish; their inner webs whitish, crossed by numerous narrow bars, fading into a point as they approach the edge; tail gray, obscurely barred with brown, and tipped with buff.

Total length 17 inches; bill, $1\frac{1}{4}$; wing, $12\frac{1}{2}$; tail, $7\frac{1}{2}$; tarsi, $1\frac{3}{4}$.

Considerably smaller, but closely allied to the Jerfalcon, *Falco Islandicus*.

Hab. Western Australia.

PODARGUS BRACHYPTERUS or MACRORHYNCHUS. *Pod. rostro prægrandi (ad magnitudinem corporis ratione habitâ) et producto; colore corporis obscuro, et minutè punctulato.*

Crown of the head and all the upper surface finely freckled gray and brown, with a stripe of black down the centre of each feather, the light colour predominating on the scapularies; feathers between the eyes and the nostrils chestnut-brown, sprinkled with black and tipped with white; shoulders and lesser wing-coverts deep reddish brown; some of the feathers tipped with a white spot, freckled with red in the centre; greater coverts and secondaries mingled gray and reddish brown, the former tipped like the lesser coverts; primaries reddish brown, regularly barred with buffy-white on their outer webs, and with interrupted tawny bands on their inner webs; tail light-brown, freckled with black and gray, and crossed by numerous irregular, narrow, dark-brown bands, freckled with gray; all the under surface grayish white, each feather crossed by numerous fine and irregular bars of tawny and with a stripe of brown down the centre, the latter colour becoming chestnut and forming a semilunar mark down each side of the neck; thighs black; irides light yellow; bill and feet brown.

Total length 15 inches; bill, 25; wing, 9; tail, 7; tarsi, $1\frac{1}{8}$.

In its general appearance this bird closely resembles the *Podargus humeralis*, but is even smaller in size than *P. Cuvieri*, while at the same time the bill is fully equal in size to that of the former species; it also projects much farther from the face than in any other species inhabiting Australia.

Hab. Swan River, Western Australia.

MALURUS MELANOTUS. *Mal. vertice, gulâ, abdomine, humeris, caudæque tectricibus lazulino-cæruleis; loris, nuchâ, vittâ pectorali et dorso imo nigris.*

Male.—Crown of the head, crescent-shaped mark on the back, upper tail-coverts, throat and under surface rich metallic lazuline blue; ear-coverts metallic verditer-blue; lores, collar round the back of the neck, line from the base of the lower mandible down the sides of the neck, band across the breast and lower part of the back jet-black; wings brown, margined with pale green; tail greenish blue, tipped with grayish white; irides, bill and feet black.

Female.—Lores rufous; head and all the upper surface rufous brown; all the under surface brownish white; tail bluish green, tipped with grayish white; bill rufous; irides blackish brown; feet brown.

Total length, $4\frac{3}{4}$ inches; bill, $\frac{1}{2}$; wing, 2; tail, $2\frac{1}{2}$; tarsi, $\frac{7}{8}$.

This beautiful species may be distinguished from the *Malurus* *pectoralis* by its rather smaller size, and by the black band across the back.

Hab. Western belts of the Murray in Western Australia.

COLLURICINCLA BRUNNEA. *Coll. corpore supernè fusco; sic et corpore subtùs, at colore multo dilutiore; rostro nigro.*

All the upper surface pale brown; primaries and tail the same, but somewhat lighter; all the under surface brownish white, becoming almost pure white on the vent and under tail-coverts; thighs grayish brown; bill black; feet blackish brown.

Total length, 9½ inches; bill, 1⅛; wing, 4¾; tail, 4¼; tarsi, 1¼.

The sexes are alike in plumage.

This species rather exceeds in size the *Colluricincla cinerea*, Vig. and Horsf., and has a more curved, longer and stouter bill.

Hab. The north-west coast of Australia.

COLLURICINCLA RUFIVENTRIS. *Coll. corpore supernè intensè cinereo, olivaceo leviter tincto; abdomine imo, crissoque rufis.*

Lores grayish white; crown of the head and all the upper surface deep gray, slightly tinged with olive; primaries and tail dark brown, margined with brownish gray; throat and under surface darkish gray, passing into buff on the vent and under tail-coverts; all the feathers of the under surface have a narrow dark line down the centre; thighs gray; irides dark brown; bill black; feet dark brown.

Total length 8½ inches; bill, 1; wing, 5, tail, 4¼; tarsi, 1¼.

The sexes are alike in colour.

About the size of *Colluricincla cinerea*, Vig. and Horsf., from which it may be distinguished by the uniform colouring of the back and the buffy tint of the lower part of the abdomen and under tail-coverts.

Hab. Swan River, Western Australia.

PACHYCEPHALA RUFOGULARIS. *Pach. mas: corpore supernè fuscescenti-cinereo; gulâ et corpore subtùs rufis; pectore vittâ fuscescenti-cinereâ obscurè notatâ.*

Fœm. a mare differt corpore subtùs albescenti-cinereo haud rufo.

Male.—Crown of the head and all the upper surface deep brownish gray; wings and tail dark brown, the feathers margined with grayish brown; lores, chin, throat, under surface of the shoulder and all the under surface reddish sandy brown, crossed on the breast by a broad irregular band of grayish brown; irides reddish brown; bill black; feet blackish brown.

Female.—Differs from the male in having the throat and under surface grayish white, the chest being crossed by an obscure mark of grayish brown and with a line down the centre of each feather.

Total length, 7 inches; bill, ¾; wing, 4¼; tail, 3½; tarsi, 1.

This species is somewhat allied to *P. pectoralis*, but may be distinguished from it by the rufous colouring of the throat, and by the band across the chest being grayish brown instead of black.

Hab. South Australia.

PACHYCEPHALA INORNATA. *Pach. olivaceo-fusca, abdomine palli-*

diore; plumis corporis inferioris strigâ fuscâ centrali leviter notatis.

All the upper surface grayish olive; wings and tail brown, the feathers of the former broadly margined with lighter brown; all the under surface brownish gray, becoming nearly white on the vent and under tail-coverts, with a fine stripe of pale brown down each feather; irides dark brown; bill blackish brown, fleshy towards the base; feet blackish brown.

Total length, 7 inches; bill, $\frac{3}{4}$; wing, $3\frac{3}{4}$; tail, $3\frac{1}{2}$; tarsi, 1.

This bird has somewhat the appearance of the young or female of *P. gutturalis*, but its larger size and shorter and more robust bill distinguish it from that species.

Hab. Belts of the Murray in South Australia.

ZOSTEROPS CHLORONOTUS. *Zos. dorso olivaceo-viridi; gutture et crisso virescenti-flavis.*

Lores black; crown of the head and all the upper surface olive-green; primaries and tail feathers brown, margined with olive-green; throat and under tail-coverts light greenish yellow; breast and under surface gray, tinged with brown on the abdomen and flanks; irides wood-brown; bill brown, lighter on the under mandible; legs and feet dark-gray.

Total length, $4\frac{1}{4}$ inches; bill, $\frac{9}{16}$; wing, $2\frac{1}{8}$; tail, $1\frac{3}{4}$; tarsi, $\frac{5}{8}$.

Hab. Western Australia.

December 8, 1840.

W. H. Lloyd, Esq., in the Chair.

A paper by G. B. Sowerby, Esq., was read, in which the author continues his descriptions of the new Shells collected in the Philippine Islands by H. Cuming, Esq.

Helix Monticula. *Hel. testâ suborbiculari, subconicâ, tenui, pallescente, lævi; spirâ brevi, subpyramidali, obtusâ; anfractibus quatuor tenerrimè (lineis incrementi) striatis, depressiusculis, ultimo magno, obtusissimè angulato, anticè depressiusculo, viridi; aperturâ subtrapeziformi, ungulis posticis acutiusculis; peritremate angusto, tenuitèr reflexo, albo; columellâ albâ.*

Long. 0·9; lat. 0·9 poll.

Hab. supra foliis arborum apud Lallo, provinciæ Cagayan insulæ Luzon, Philippinarum.

All the varieties of this pretty species are green in front, and the *apex* appears to be always colourless. The following six varieties occur:—

a. Yellow above; circumference orange-yellow; front green. From Lallo.

b. Yellow above; circumference orange-yellow, with a dark brown slightly interrupted band; green in front. From St. Jaun, in the province of Cagayan.

c. Yellowish white above, with a narrow dull yellowish green circumferential band; green in front. From Gattarang, in the province of Cagayan.

d. Volutions banded in the following order: band next to the suture yellowish white; then a pale green broader band; then a yellowish white band; then a dark brown circumferential band, with jagged edges; then another yellowish white band, and then green in front. From Lallo.

e. Small; pale yellowish, with a light band, consisting of short dark brown lines near to the suture; a dark brown circumferential band; front dull yellowish green. From St. Jaun.

f. Antesutural band consisting of irregular dark brown lines arranged side by side; then a yellowish white band; then a broad, dark brown, somewhat mottled and interrupted band; then another yellowish white band, and then the green front. From Abulug, in the province of Cagayan.

Helix Coccomelos. *Hel. testâ subglobosâ, tenuiusculâ, lævi, anfractibus quatuor rotundatis, lævigatis, striis incrementi solùm insculptis, ultimo maximo; aperturâ suborbiculari, peritremate reflexo; labio columellari albo, declivi, obtuso, depressiusculo.*

Long. 1·3; lat. 1·4 poll.

Hab. supra foliis arborum ad insulam Tablas dictam Philippinarum.

In general this species bears a great resemblance to a plum, for which reason I have called it *H. Coccomelos*. Several varieties may be distinguished.

a. Apex dark brownish red, softened off gradually to a pale yellow-green, which becomes gradually darker, until the body of the last volution is of a fine dark green: lip white.

b. Similar to *a*, only dark brown instead of green.

c. Of a uniform very dark chocolate-brown, except the second and third volutions, which have a rather paler central band: lip chocolate.

d. Apex dark chocolate-brown; upper part of the spire of a pale dull yellowish colour, becoming darker and greener toward the last volution, where the ground-colour is olive-green; an antesutural dark red-brown broad band; a circumferential band of a rather darker colour, but rather narrower, and the columellar lip surrounded by a broad dark band, which is softened off into the dark olive-green ground-colour.

e. Of an uniform pale yellow-brown, becoming very dark near the back of the lip, where it is nearly black: lip chocolate. From Calbayog, island of Samar: found on leaves of trees.

f. Similar to *e*, but having two narrow dark brown bands: lip nearly black behind; white in front. From Calbayog.

HELIX INTORTA. *Hel. testâ suborbiculari, subdepressâ, tenui, lævi, anfractibus* 4½, *ventricosis, tenuissimè striatis, plerumque pallescente-flavidis, fasciis tribus castaneis ornatis; aperturâ sublunari, peritremate tenui, tenuiter reflexo; labio columellari rectiusculo, extùs inclinato, obtuso.*

Long. 1; lat. 1·5 poll.

Hab. Supra foliis fruticum ad Loboc, insulæ Bohol, Philippinarum.

Several varieties of this beautiful species occur; most of them are marked with two brown bands, and have the circumference of the *columella* of the same colour; one is of an uniform pale brownish colour, and another is almost entirely of a very dark chocolate colour: a white line may be observed close to the suture in most of the varieties. The following are the most distinct varieties:—

a. Ground-colour pale yellowish; antesutural band very dark chestnut-brown; circumferential band of the same colour, and a broad band of the same surrounding the *columella*. From Loboc.

b. Similar to *a*, but considerably larger, and having a broader circumferential band. From Loboc.

c. Ground-colour of a pale brown hue; bands the same as in *a*.

d. Smaller than *a.*: ground-colour pale greenish brown; bands nearly the same, but very dark and brilliant. From Loboc.

e. Ground-colour pale yellowish brown; antesutural band softened off in front; in other respects like *a*.

f. Ground-colour pale yellowish; bands pale chestnut-brown. From Loboc.

g. Ground-colour pale yellow; bands increasing in width toward the back of the mouth, where they unite, and where the brown colour extends from front to back of the shell: the peritreme is entirely white, and the circumference of the *columella* also. Found on leaves of trees on the island of Siquijor.

h. Ground-colour very pale yellowish; antesutural band very narrow and indistinct; circumferential band broad, pale, and rather irregular; lip and circumference of the *columella* white. From the island of Siquijor.

i. Shell entirely of a pale lemon-yellow, except only a narrow antesutural dark brown band, which becomes broader towards the lip. Found on leaves of bushes at Tanhay, in the Isle of Negros.

k. Ground-colour very pale yellow-brown; a brown circumferential band, which is only perceptible on the latter half of the last volution. From Loboc.

l. Shell of an uniform pale brownish colour. From Loboc.

m. *Apex* reddish-brown; upper part of the shell pale yellowish brown, increasing rapidly in intensity, so that nearly the whole of the last volution is of a dark chocolate-brown; *columella* white; lip nearly black. From Loboc.

Mr. Gould completed the exhibition of his fifty new species of Australian birds, and characterized the following new species:—

A new *Entomyza* interesting as being the second species of that form. Mr. Gould received this bird from Port Essington, and believes that it there supplies the place of *E. cyanotis*, which is common on the eastern coast. Its distinguishing characteristics are its rather larger size, the markings of its throat being more strongly defined and the basal half of the primaries being white; for which reason he proposes to characterize it as

ENTOMYZA ALBIPENNIS. *Ent. corpore suprà et alis e viridi aureo-olivaceis; primariis fuscis; pogoniis internis per dimidium basale niveis.*

Crown of the head and back of the neck black; lower part of the face, chin and centre of the chest slaty black; a crescent-shaped mark at the occiput, a line from the lower mandible passing down each side of the neck and all the under surface pure white; upper surface and wings greenish golden olive; primaries brown, the basal half of their inner webs snow-white; tail feathers brown, tinged with golden olive, all but the two centre ones tipped with white; bill, bare space surrounding the eye and feet in all probability the same as in *E. cyanotis*.

Total length, 12 inches; bill, $1\frac{1}{2}$; wing, 6; tail, $4\frac{3}{4}$; tarsi, $1\frac{3}{8}$.

Hab. Port Essington on the northern coast of Australia.

Nearly allied to *E. cyanotis*, but always distinguishable from that species by the white basal half of the primaries.

A new *Myzomela* differing from all the other members of the genus in its pied colouring and the black band across the chest, which suggests the specific name of

Myzomela pectoralis. *Myz. gutture et corpore subtùs albis, pectore fasciâ angustâ nigrâ transversìm notato.*

Forehead, crown of the head, the upper surface, wings, tail and a narrow band across the chest, black; throat, upper tail-coverts and all the under surface white; bill and feet black.

Total length, $4\frac{1}{2}$ inches; bill, $\frac{5}{8}$; wing, $2\frac{5}{8}$; tail, $1\frac{3}{4}$; tarsi, $\frac{5}{8}$.

Hab. North-west coast of Australia.

A second example of the genus *Dasyornis,* inhabiting Swan River, which I propose to call

Dasyornis longirostris. *Das. colore ut in D. Australi; differt autem staturâ corporis minore, rostro grandiore.*

All the upper surface brown; wings, tail-coverts and tail rufous brown, the latter indistinctly barred with a darker tint; under surface gray, gradually passing into the brown of the upper surface; irides bright reddish brown; bill and feet dark horn-colour.

Total length, $7\frac{1}{2}$ inches; bill, $\frac{7}{8}$; wing, $2\frac{5}{8}$; tail, 4; tarsi, $\frac{7}{8}$.

Hab. Western Australia.

This is a somewhat smaller bird, but has a longer bill than *D. Australis.*

An entirely new form, belonging to the family *Saxicolinæ,* and nearly allied to *Petroïca,* I propose to make the type of a new genus, *Drymodes,* signifying a lover of woodland places:—

Genus Drymodes.

Characteres generici.—Rostrum rectum, ad latera apicem versus paulò compressum, ferè longitudine capitis, apice levitèr denticulato, basi vibrissis parcè instructâ. *Alæ* mediocres, rotundatæ, remigum primo brevissimo, quinto longissimo. *Cauda* mediocritèr elongata, paulò rotundata. *Tarsi* longi, graciles, anticè superficie integrâ. *Digiti* mediocres, externus horum quàm internus paulò longior, posticus cum ungue quàm digitus intermedius cum ungue brevior.

Drymodes brunneopygia. *Dry. fusca; primariis apud pogonia interna albo transversìm striatis; uropygio tectricibusque caudæ rufo-fuscis.*

Head and all the upper surface brown, passing into rufous brown on the upper tail-coverts; wings dark brown, the coverts and primaries edged with dull white; primaries and secondaries crossed near the base on their inner webs with pure white; tail rich brown, all but the two middle feathers tipped with white; under surface grayish brown, passing into buff on the under tail-coverts; irides bill and feet blackish brown.

Total length, 8 inches; bill, $\frac{7}{8}$; wing, $3\frac{7}{8}$; tail, $4\frac{1}{4}$; tarsi, $1\frac{1}{2}$.

Hab. Belts of the Murray in South Australia.

This bird, although of a large size and so sombre in colouring, is nearly allied to *Petroïca.*

The next is an extraordinary form among the *Muscicapidæ,* differing from all the other known members of that group in having the bill compressed laterally, for which reason I propose to constitute it the type of a new genus, with the following name and characters.

Genus PIEZORHYNCHUS.

Characteres generici.—Rostrum quàm caput longius, altius plusquàm latum, ferè cylindraceum, lateralitèr compressum, apicem versus denticulatum. *Nares* parvæ, rotundatæ, basales. *Alæ* breves, remige primo mediocri, quarto longissimo. *Cauda* aliquantò brevis et rotundata. *Tarsi* mediocriter elongati et paulò debiles. *Digitus* externus et medius inter se connexi usque ad articulum primum, externus longissimus.

The only specimen I possess was forwarded to me by E. Dring, Esq., surgeon of H.M.S. Beagle, by whom it was procured on the north-west coast of Australia. From the glossy nature of its plumage I propose to name it

PIEZORHYNCHUS NITIDUS. *Piez. fulgidè viriscenti-niger.*

All the plumage, including the wings and tail, rich deep glossy greenish-black; bill and feet black.

Total length, $7\frac{1}{4}$ inches; bill, $1\frac{1}{8}$; wing, $3\frac{1}{4}$; tail, $3\frac{1}{4}$; tarsi, $\frac{3}{4}$.

Hab. North-west coast of Australia.

This very curious bird belongs, I conceive, to the *Muscicapidæ*, and is somewhat allied to *Seisura*.

A new *Praticola*, common on the plains round Adelaide, and forming the second example of the genus, is

PRATICOLA CAMPESTRIS. *Prat. fronte et plumis auricularibus rufis; gutture albescente; corpore subtùs et lateribus ex arenaceo luteolis fusco striatis.*

Forehead rufous, passing into the reddish brown of the crown and upper surface, with a stripe of blackish brown down the centre of each feather; wings sandy brown; internal webs of the primaries dark brown; two centre tail-feathers reddish brown, the remainder reddish brown at the base, crossed towards the extremity with a broad band of brownish black and broadly tipped with white; over the eye a line of white; ear-coverts mingled rufous and white; throat white, gradually passing into the buff of the under surface; all the feathers of the under surface with a stripe of brownish black down their centre; bill blackish, lighter at the base of the under mandible; irides rufous brown; feet blackish brown.

Total length, $4\frac{1}{2}$ inches; bill, $\frac{5}{8}$; wing, $2\frac{1}{4}$; tail, 2; tarsi, $\frac{7}{8}$.

Hab. South Australia.

Closely allied to but much smaller than *Calamanthus striatus.*

A new *Acanthiza* as

ACANTHIZA INORNATA. *Acanth. corpore suprà, alis caudáque olivaceo-fuscis, hác nigrescenti-fusco latè fasciatá; corpore subtùs pallidè luteolo.*

All the upper surface, wings and tail olive brown; primaries dark brown; tail crossed by a broad band of brownish black; all the under surface light buff; irides greenish white; bill and feet black.

Total length, $3\frac{1}{2}$ inches; bill, $\frac{1}{2}$; wing, $1\frac{7}{8}$; tail, $1\frac{1}{2}$; tarsi, $\frac{11}{16}$.

Hab. Western Australia, particularly the neighbourhood of Swan River.

A new species from Swan River, which, with the *Muscicapa macroptera* of Messrs. Vigors and Horsfield, I propose to erect into a new genus under the name of *Micrœca*.

Genus Micrœca.

Characteres generici.—Rostrum quàm caput brevius, depressum, ad basin latum, gonyide recto, apice incurvo et levitèr denticulato. *Nares* rotundatæ, ad basin rostri vibrissis validis instructam positæ. *Alæ* longæ et fortes, remigum primo brevi, tertio longissimo. *Cauda* aliquantò brevis, et ferè quadrata. *Tarsi* mediocres, debiles. *Digiti* debiles; externus quàm internus valdè longior.

As the species now exhibited closely assimilates to the *M. macroptera*, I propose to designate it as

Micrœca assimilis. *Mic. supernè, caudæ rectricum externorum pogoniis internis per partes tres longitudinis a basi fuscis.*

All the upper surface brown; primaries dark brown; tail brownish black, the tips and the terminal half of the external margins of the two outer feathers white, the three next on each side are also tipped with white, the extent of the white becoming less upon each feather as they approach the centre of the tail; the four middle feathers without the white tip; throat, centre of the abdomen and under tail-coverts white, passing into pale brown on the sides of the chest and flanks; irides reddish brown; bill and feet blackish brown.

Total length, $4\frac{5}{8}$ inches; bill, $\frac{9}{16}$; wing, $3\frac{3}{8}$; tail, $2\frac{1}{8}$; tarsi, $\frac{9}{16}$.

Hab. Western Australia.

Nearly allied to but much less in size than *Muscicapa macroptera*, Vig. and Horsf., and from which it may also be distinguished by the base of the outer tail-feather being brown.

Myiagra latirostris. *Myi. corpore suprà, alis caudâque intensè cæruleo-cinereis; capite et nuchâ fulgidè virescentibus; gutture et pectore arenaceo-luteolis; abdomine albo.*

All the upper surface, wings and tail dark blueish gray, with a shining greenish lustre on the head and back of the neck; throat and chest sandy buff; under surface white; bill much dilated laterally and black; irides blackish brown; feet black.

Total length, 6 inches; bill, $\frac{3}{4}$; wing, $2\frac{3}{4}$; tail, $2\frac{3}{4}$; tarsi, $\frac{5}{8}$.

Hab. North-west coast of Australia.

From the collection of Mr. Dring.

Hirundo leucosternus. *Hir. dorso medio, gutture et pectore albis; abdomine, uropygio, alis caudâque nigris et chalybëio-cæruleo-nitentibus.*

Crown of the head brown, bounded with white; back of the neck brown; centre of the back, chin, throat and chest white; the remainder of the plumage black, slightly glossed with steel-blue; bill black; feet brown.

Total length, $7\frac{1}{4}$ inches; bill, $\frac{5}{16}$; wing, $3\frac{3}{4}$; tail, which is deeply forked, $2\frac{3}{4}$; tarsi, $\frac{7}{16}$.

Hab. Interior of Australia.

The only specimen of this bird that has ever come under my notice, was given me by Mr. Charles Coxen, who informed me it was shot by one of his men while flying in company with another over a small pool on the banks of the Namoi.

A small bird inhabiting the scrubs of the River Murray. It is a new form, nearly allied to *Acanthiza*. The generic term is suggested by the ruddy colouring of the throat.

Genus PYRRHOLÆMUS.

Characteres generici.—*Rostrum* quàm caput brevius, ad latera paulò compressum, ad apicem denticulo vix notando, vibrissis parvulis ad basin, naribus linearibus et operculo tectis. *Alæ* breves, rotundatæ, remigum primo perbrevi, tertio longissimo. *Cauda* brevis, rotundata, concava. *Tarsi* mediocres; digitus externus quàm internus longior.

PYRRHOLÆMUS BRUNNEUS. *Pyrrh. supernè brunneus; gutture rufo.*

Lores greyish white; all the upper surface and wings brown; tail brownish black, the three lateral feathers on each side largely tipped with white; centre of the throat rufous; the remainder of the under surface brownish grey, passing into sandy buff on the flanks and under tail-coverts; bill and feet blackish brown.

Total length, $4\frac{1}{2}$ inches; bill, $\frac{1}{2}$; wing, $2\frac{1}{4}$; tail, $\frac{7}{8}$; tarsi, $\frac{13}{16}$.

Hab. Belts of the Murray in South Australia.

The female differs in having no red on the throat.

A highly interesting Pigeon from the north-west coast, which, as it differs from all the other forms of its family, and is said to inhabit the rocks, I propose to make the type of a new genus, with the name of

Genus PETROPHASSA.

Characteres generici.—Ferè ut in Peristerâ. *Alæ* autèm et rotundatæ sunt et admodùm breviores; deest etiam color metallicè æneus. *Cauda* magis rotundata.

PETROPHASSA ALBIPENNIS. *Petr. supernè fusca; gutture alboguttato; primariis ad dimidium basale albis.*

Crown of the head and neck grayish brown, margined with sandy brown; all the upper surface, chest and tail rufous brown, the centre of each feather inclining to gray; lores black; abdomen and under tail-coverts chocolate brown; throat clothed with small feathers white at the tip, black at the base; primaries dark brown at their tips, the basal half pure white; bill and irides blackish brown; feet reddish brown.

Total length, $10\frac{1}{2}$ inches; bill, $\frac{7}{8}$; wing, $5\frac{1}{4}$; tail, 5; tarsi, $\frac{3}{4}$.

Hab. Western Australia.

Allied to the members of the genus *Peristera*.

Eudromius Australis. *Eudr. colore cervino vel luteolo; abdomine medio castaneo; parte inferiore nec non crisso albis.*

Forehead and all the upper surface light sandy buff, the centres of the feathers being brown; primaries brownish black with sandy buff shafts, and all but the first four broadly margined with the same; throat buffy white, below which a crescent-shaped mark of blackish brown; chest, flanks and under surface of the wing buff, passing into reddish chestnut on the abdomen, beyond which the vent and under tail-coverts are white; tail brownish black, the centre feather margined with buff, the outer ones with white; bill dark olive brown; feet yellowish brown.

Total length, $7\frac{1}{2}$ inches; bill, $\frac{7}{8}$; wing, $5\frac{1}{4}$; tail, $2\frac{1}{2}$; tarsi, $1\frac{3}{8}$.

Hab. Interior of South Australia.

This is a highly interesting species, since it is the only bird approaching the form of the British Dottrel found in any part of the world. This rare species has been sent me by my friend Captain Sturt, who procured it during his late expedition into the interior of Australia, behind Adelaide.

Rhipidura isura. *Rhip. corpore suprà sordidè fusco; caudæ rectricum utrinque externâ albo extrinsecùs marginatâ et latè terminatâ, proximâ albo ad apicem notatâ, iterumque proximâ apicem versus lineâ albâ tenuissimâ.*

All the upper surface dull brown; wings and tail darker brown, the outer feather of the latter on each side margined externally and largely tipped with white, the next having a large irregular spot of white at the tip, and the next with a minute line of white near the tip; chin and under surface buffy-white, with an indication of a dark brown band across the chest; bill and feet black.

Total length, 8 inches; bill, $\frac{5}{8}$; wing, $3\frac{3}{8}$; tail, $3\frac{1}{2}$; tarsi, $\frac{11}{16}$.

Hab. North-west coast of Australia.

In the collection of his Excellency Captain Grey and Mr. Dring.

Rather a large species, and is distinguished from the other members of the genus by the sombre hue of its plumage and the square form of its tail.

Psilopus culicivorus. *Psi. abdomine crissoque albis; rectricibus caudæ, duabus intermediis exceptis, albo ad basin latè fasciatis.*

All the upper surface olive-brown; wings brown margined with olive; two centre tail-feathers brown; the remainder white, crossed by an irregular band of black and tipped with brown, the band upon all but the external feathers, so blending with the brown at the tip that the white between merely forms a spot on the inner web; lores blackish-brown; line over the eye, throat and chest light gray, passing into buff on the flanks, and into white on the centre of the abdomen and under tail-coverts; irides light reddish yellow; bill and feet black.

Total length, $4\frac{1}{4}$ inches; bill, $\frac{1}{2}$; wing, $2\frac{1}{4}$; tail, $1\frac{3}{4}$; tarsi, $\frac{5}{8}$.

Hab. Western Australia.

A new species and new form, which I first saw in the streets of Adelaide, where it was hopping about and presenting the appearance of the Sparrow in London. For this new bird I propose the generic and specific terms *Xerophila leucopsis*.

Genus XEROPHILA.

Characteres generici.—Rostrum breve, semiconi instar, ad basin robustum, ad apicem haud denticulatum, basi vibrissis anticè ductis parcè instructâ; naribus rotundatis et plumis minutis obtectis. *Alæ* mediocres, remigum primo brevi, tertio et quarto longissimis, tertiariis latis et paulò elongatis. *Cauda* mediocris, ad apicem quadrata, et aliquantò concava. *Tarsi* robusti; digitus posticus validus, digiti antici debiles, horum externus longissimus.

XEROPHILA LEUCOPSIS. *Xer. facie albá; corpore supernè fusco.*

Forehead and lores white; upper surface olive brown; wings and tail brown, the latter passing into black near the extremity and tipped with white; all the under surface pale buff; bill and feet black.

Total length, 4 inches; bill, $\frac{3}{8}$; wing, $2\frac{1}{2}$; tail, $1\frac{3}{4}$; tarsi, $\frac{3}{4}$.

Hab. South Australia.

LICMETIS PASTINATOR. *Lic. albus, loris coccineis; remigum pogoniis internis necnon caudæ rectricum sulphureis, colore quàm in L. nasico intensiore cui speciei magnitudine corporis L. pastinator magnoperè præstat.*

Lores scarlet; general plumage white; the base of the feathers of the head and front of the neck scarlet, showing through and giving those parts a stained appearance; the basal half of the inner webs of the primaries, the inner webs of all the other feathers of the wing and the inner webs of the tail-feathers beautiful brimstone yellow; naked space round the eye greenish blue; irides light brown; bill white; feet dull olive gray.

Total length, $17\frac{1}{2}$ inches; bill, $1\frac{5}{8}$; wing, 12; tail, 7; tarsi, 1.

Hab. Western Australia.

Nearly allied to *Licmetis nasicus* but of a much larger size.

NUMENIUS UROPYGIALIS. *Num. vertice fusco, lineá luteolá angustá et inæquali per medium currente; uropygio et tectricibus caudæ fusco alboque fasciatis.*

Crown of the head brown, with a narrow irregular stripe of buffy white down the centre; lores and line behind the eye brown; line over the eye, neck and breast buffy white, with a brown line down the centre of each feather, the brown colour predominating; centre of the back and scapularies dark olive spotted on their margins with light buff; wing-coverts the same, but lighter and presenting a mottled appearance; primaries blackish brown with white shafts; rump and upper tail-coverts barred with brown and white; tail pale brown barred with dark brown; chin, lower part of the abdomen and under tail-coverts white; bill blackish horn-colour, fleshy at the base; feet grayish black.

Total length, 15 inches; bill, 3; wing, $9\frac{1}{2}$; tail, 3; tarsi, $2\frac{1}{4}$.

Hab. South coast of Australia.

Nearly allied to *N. Phæopus* but distinguished from that species by the brown colouring of the rump.

NUMENIUS MINUTUS. *Num. uropygio tectricibusque caudæ intensè fuscis; marginibus plumarum albo-guttatis; corpore subtùs luteolo.*

Forehead dark brown mottled with buff; lores and line behind the eye buff; back, sides and front of the neck buff, with a fine line of brown down the centre of each feather; all the upper surface blackish brown, with a series of triangular spots round the margins of the feathers of a sandy buff; shoulders, primaries and secondaries blackish brown, the latter with white shafts; rump and tail-coverts dark brown spotted with white on the margins; tail grayish brown barred with black; chin white; under surface light buff; flanks and under surface of the wing deep buff, regularly barred with arrow-shaped marks of brown; irides black; bill fleshy at the base, olive brown at the tip; feet blueish flesh-colour.

Total length, 12 inches; bill, $1\frac{3}{4}$; wing, 7; tail, 3; tarsi, $1\frac{3}{4}$.

Hab. New South Wales.

This is one of the smallest species of the genus. I never but once saw a flock of this bird; out of which I killed two, on the race-course at Maitland on the Upper Hunter.

PORPHYRIO BELLUS. *Porph. capite, collo et corpore subtùs intensè cæruleis; facie, gutture et pectore virescenti-cæruleis; dorso, alis caudâque e fusco nigris.*

Head, neck and all the under surface deep blue; sides of the face, front of the throat and chest greenish blue; back, wings and tail brownish black; shoulder and edge of the wing and outer margins of the primaries greenish blue; under tail-coverts white; irides bright red; bill red; legs grass-green, except the knees, lower part of the tarsi and inside of the feet, which are dark greenish gray.

Total length, 18 inches; bill, $1\frac{3}{4}$; wing $10\frac{1}{2}$; tail, $4\frac{1}{2}$; tarsi, $3\frac{1}{2}$.

Hab. Western Australia.

OTIS AUSTRALASIANUS. *Ot. vertice et occipite nigris; capitis lateribus, collo et pectore e cinereo-albis fusco adspersis; singulis plumis crebrè lineis transversis fuscis et tortuosis vel fractis striatis; pectore fasciâ nigrâ haud æquali ornato.*

Crown of the head and occiput black; sides of the head, the neck and breast grayish white, each feather crossed by numerous fine zigzag bands of brown, giving those parts a freckled appearance; wing-coverts black largely tipped with white; all the upper surface, wings and upper tail-coverts brown very minutely freckled with reddish brown; some of the feathers towards the hinder parts of the body tinged with gray; tail gray, crossed near the centre by an interrupted band of white, minutely freckled with white, margined with brown and slightly tipped with white; chest crossed by an irregular band of black, beyond which the under surface is white; under tail coverts grayish black tipped with white; irides brownish buff, brown predominating near the pupil; eyelash pale olive yellow; bill straw-white with olive and black culmen; legs and feet straw-yellow.

Total length, 40 inches; bill, 4; wing, 25; tail, 10; tarsi, 7½.

Hab. Plains of the interior of Australia generally.

Anas næevosa. *Anas intensè fuscà, plumis albo irroratis et longitudinaliter notatis.*

The whole of the plumage dark brown, minutely freckled and spotted with irregular oblong marks of white in the direction of the feathers; the under surface the same, but lighter and tinged with buff; wings without a speculum; primaries plain brown; irides light brown; bill greenish gray, becoming much darker at the tip; legs bluish green.

Total length, 17 inches; bill, 2½; wing, 9; tail, 3; tarsi, 2.

Hab. Western Australia.

The above is the description and measurements of a female.

Sula Australis. *Sula primariis alarum et secondariis necnon rectricibus caudæ duabus intermediis fuliginoso-fuscis; tarsis anticè digitisque viridi-flavis.*

Crown of the head and back of the neck beautiful buff; the remainder of the plumage white, with the exception of the primaries, secondaries and four centre tail-feathers, which are fuliginous brown with white shafts; irides olive white; bill brownish horn-colour slightly tinged with blue; space round the eye leaden blue; bare skin at the base of the beak and down the centre of the throat nearly black; front of the tarsi and toes sickly greenish yellow; webs brown.

Total length, 32 inches; bill, 5½; wing, 19; tail, 10; tarsi, 2.

Hab. The Tasmanian Seas.

The specimen exhibited is from the River Derwent. Like the other members of its family, this species will allow of its being taken with the hand. Some of my specimens were so taken on a rock on the Actæon Islands.

The circumstance of being enabled to bring an entirely new Albatros before the notice of the Society is a source of great gratification to me, since the group to which it belongs had already been paid much attention to by our early voyagers and later naturalists. The present bird differs from all the other species in the extreme caution with which it avoids rather than approaches the neighbourhood of vessels at sea. It is rather abundant in Bass's Straits and in all the seas off Van Diemen's Land.

From its shyness, I propose to name this species

Diomedea cauta. *Diom. vertice albo; faciei colore e margarità* *cinereo; dorso, alis caudâque cinereo-fuscis; rostro pallidè vinaceo-cinereo; culmine, ad basin præsertim, flavo.*

Crown of the head, back of the neck, throat, all the under surface, rump and upper tail-coverts pure white; lores and line over the eye grayish black, gradually passing into the delicate pearl-gray which extends over the face; back, wings and tail grayish brown; irides dark vinous orange; bill light vinous gray, or blueish horn-colour, except on the culmen, where it is more yellow, particularly at the base; the upper mandible surrounded at the base by a narrow belt of black, which also extends on each side the culmen to the nostrils; base of the lower mandible surrounded by a belt of rich orange, which extends to the corners of the mouth; feet blueish white.

Total length, 31 inches; bill, $4\frac{1}{2}$; wing, $21\frac{1}{2}$; tail, 9; tarsi, 3.

Hab. Bass's Straits.

The above are the dimensions of a female; the male is considerably larger.

Nearly allied to, but larger than *D. melanophrys*.

THALASSIDROMA NEREIS. *Thal. gutture pectoreque fuliginoso-cinereis; dorso, uropygio tectricibusque caudæ cinereis; abdomine, lateribus et crisso albis.*

Head, neck and chest sooty gray; lower part of the wing-coverts, back, rump and upper tail-coverts gray, each feather very slightly margined with white; wings grayish black; tail gray, broadly tipped with black; under surface pure white; irides, bill and feet black.

Total length, $6\frac{1}{2}$ inches; bill, $\frac{9}{16}$; wing, $5\frac{1}{4}$; tail, $2\frac{1}{2}$; tarsi, $1\frac{1}{4}$.

Hab. Bass's Straits, on the south coast of Australia.

This beautiful fairy-like Storm Petrel is about the size of *Thal. Wilsoni*, and is remarkable as differing from most of the members of the group in having no white on the rump and in the pure white of the under surface.

Mr. Gould exhibited to the Meeting a new species of *Hypsiprymnus*, from Swan River, which he characterized under the name of

HYPSIPRYMNUS GRAII. *Hyps. fusco-cinereus; corpore subtùs albescente; caudâ mediocri, fuscâ, flavo lavatâ, ad apicem albâ; pedibus pallidè fuscis; auribus mediocribus rotundatis.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin....	18	0
———— *caudæ*	11	6
———— *tarsi digitorumque* (sine unguibus)..	4	3
———— ab apice rostri ad basin auris	2	4
———— *auris*	1	1

This species most nearly resembles the *Hypsiprymnus rufescens* of Mr. Gray, but differs in being of an ashy brown colour above, and in having the hairs which clothe the back of the ears of the same general colour as those of the head, instead of black, as in the species just mentioned. The fur is long, and soft to the touch; the hairs both on the upper and under parts of the body are of a palish grey colour at the base; those on the under parts are dirty white externally, and those on the back are dirty white (inclining to ash-colour) near the *apex*, and tipped with brownish black: on the sides of the head and body a very faint yellowish hue is observable. The ears are sparingly clothed within with small yellowish hairs; externally they are clothed with fur, like that on the head. The feet are of a very pale brown colour. The tail is brown, tinted with yellowish, excepting the apical third, which is covered with longish white hairs.

December 22nd, 1840.

William Yarrell, Esq., Vice-President, in the Chair.

A letter from Mr. Frembly, R.N., Corresponding Member Z.S., was read. It is dated Gibraltar, November 28th, and refers to two species of Shark which that gentleman had forwarded for the Society's Museum.

The following paper, being a continuation of Mr. Broderip's descriptions of Mr. Cuming's new shells, was read:—

Helix (Cochlostyla) Daphnis. *Hel. testâ ovato-pyramidali anfractibus 5 ventricosis, ultimo cæteros conjunctos excedente; labii limbo castaneo-nigricante, aperturâ albidâ vel purpurascente.*

Var. *a. Ochraceo-albida, anfractibus 2 ultimis vittis angustis serie duplice dispositis, nigricantibus, cinctis; fasciâ sub-basali vittis albido-ochraceis interruptâ nigricante; aperturâ cæruleo-albidâ.*

Var. *b. Sordidè albido-flava vittis fuscis creberrimè cincta; aperturâ albidâ.*

Var. *c. Sub-ochracea, vittis raris distantibus rubro-nigricantibus ornata, anfractu basali fasciâ latâ centrali, rubro-castaneâ ochraceo subinterruptâ cincto; aperturâ subcæruleo-albidâ.*

Habitant varietates *a, b, c,* ad Argao in insulâ Zebu.

Var. *d. Sordidè ochracea lineis 3 fuscis, medio maximo clariore, cincta; aperturâ albidâ.*

Hab. ad Sibonga in insulâ Zebu.

Var. *e. Albido-flava strigis obliquis fulvis creberrimis ornata, et fasciâ basali latiore cincta; aperturâ albidâ.*

Var. *f. Albens strigis obliquis creberrimis nigris ornata et maculis magnis nigris interdum fucata; fasciâ basali angustâ nigrâ; aperturâ cæruleo-albente.*

Habitant varietates *e,* et *f,* in insulâ Siquijod.

Var. *g. Sordidè ochracea, strigis obliquis raris castaneo-nigricantibus fucata; basi nigricante ochraceo sordidè fucatâ; aperturâ purpurascente.*

Var. *h. Anfractibus 2 primis albidis, tertio et quarto fuscis; ultimo sordidè albido strigis rarissimis obliquis nigricantibus vix notato; aperturâ rubro-purpurascente.*

Habitant varietates *g,* et *h,* ad Argao in insulâ Zebu.

The general size of this fine species is about 2½ inches long by 1¾ broad. All the varieties were found by Mr. Cuming in deep forests, on the leaves of trees. In none of them hardly do the markings commence before the fourth whorl.—W. J. B.

Helix (Cochlostyla) Faunus. *Hel. testâ elongato-subpyramidali, fuscâ, anfractibus 6 subventricosis; labii limbo nigricante; aperturâ cæruleo-albidâ.*

Var. *a. Fusca, strigis obliquis e castaneo-nigricantibus creberrimis subobscurioribus ornata, lineis nigricantibus obscurioribus cincta; fasciâ latâ basali nigricante.*

Var. *b. Fusca, lineis creberrimis obscuris cincta, strigis brevibus raris subobliquis juxta suturam notata.*

Long. 2 ad $2\frac{3}{8}$; lat. $1\frac{1}{2}$ poll.

Hab. ad Sanctum Nicolam in insulâ Zebu.

The variety *a.* is the shortest. The third specimen is deprived of its *epidermis*, or nearly so, and the ground-colour is exposed. The first four whorls are chestnut, gradually deepening in colour, and the last whorl is of a rich purple brown: the shell is obscurely banded, especially on the last whorl.

Mr. Cuming found this species on the leaves of trees.—W. J. B.

Helix (Cochlostyla) Satyrus. *Hel. testâ subpupiformi anfractibus 5 subventricosis, purpureo-castaneâ, epidermide fuscâ; aperturâ ovatâ, albidâ; labii limbo purpureo-castaneo.*

Long. 2; lat. $1\frac{1}{4}$ poll.

Hab. in insulâ Tablas.

Obscure oblique stripes and bands occur in some of the individuals of this species, which, though it approaches the last, differs from it in many points, especially in the form of the *apex* and the shape and structure of the aperture.

Found by Mr. Cuming on leaves of trees.—W. J. B.

BULINUS.

Bulinus Ægle. *Bul. testâ fulvâ; anfractu ultimo juxta suturam fasciâ angustâ et juxta basin fasciâ latâ medio pallidiore ornato; diaphanâ, lineis incrementi obliquis creberrimè striatâ; labii limbo castaneo-nigricante; aperturâ albente.*

Long. $1\frac{3}{4}$; lat. $1\frac{1}{4}$.

Hab. ad Casan in insulâ Mindanao.

The first four whorls are very pale, but the last is deep fulvous: a white line runs round the suture of the body-whorl.

Mr. Cuming found this species in a dense forest, on the leaves of trees.

Bulinus partuloïdes. *Bul. testâ pyramidali, nitidâ, aperturâ ovatâ, columellæ basi subplicatâ, labii limbo complanato, latissimo, reflexo, albo.*

Long. $1\frac{1}{4}$; lat. $\frac{3}{4}$ poll.

Var. *a. Flava, castaneo-vittata.*

In this pretty variety a single chestnut band borders the base of each whorl, and on the body-whorl there is in addition a broad, subcentral, chestnut band.

Var. *b. Castanea, albo vittata.*

In this variety the rich chestnut is relieved by a white band that borders the upper part of the last two whorls, near the suture.

Var. *c. Castanea, fusco vittata.*

In this variety the upper part of each whorl near the suture is banded with brown.

Hab. in insulâ Tablas.—W. J. B.

PLEKOCHEILUS.

PLEKOCHEILUS GRACILIS. *Pl. testâ elongatâ, gracili, anfractibus 4, ultimo longissime maximo, subdiaphanâ, anfractu basali transversim corrugato, strigis angulatis irregularibus longitudinalibus creberrime fucato; anfractibus cæteris subroseis; aperturâ subaureo-flavâ; labii limbo lato, reflexo, albo.*

Long. $1\frac{3}{4}$; lat. $\frac{5}{8}$.

Hab. in insulis Feejee dictis.

Hitherto this form has only been discovered in the Western World. Mr. Cuming received the specimen above described from a captain of a ship, who said he had got it from a native of one of the Feejee Islands. A glance at the western species will satisfy the observer that the species above described is distinct.—W. J. B.

Mr. Waterhouse exhibited two new species of Birds from the Society's collection, and pointed out their distinguishing characters. The first is a small species of *Picus*, believed to be from the north-west coast of South America, and is remarkable for the absence of spots and markings, and the brilliant red colour of the upper parts of its body and wings: this red colouring commences on the back of the neck, and is continued to the tail, as well as over the whole of the wings; that is, over the visible portion of each feather; the inner shafts being of a brown colour. The whole of the upper surface of the head is of a brown-black colour; the sides are pale brown; the throat is pure white; the chest and whole of the under parts of the body are of a dirty white colour, indistinctly tinted with yellowish. The tail is of an uniform blackish brown colour, with the exception of the two outer feathers on each side, which are pale brown; on the apical half of the external feather there is a very obscure indication of bands. The beak is of a very pale horn-colour.

The principal characters may be thus briefly expressed:—

PICUS CALLONOTUS. *Pi. capite pallidè fusco, suprà fuliginoso; corpore suprà alisque sanguineis; gulâ, pectore abdomineque albescentibus; caudâ obscure fuscâ; rostro albescente.*

In size and general form this species agrees very closely with the *Picus minor* of Europe, but its beak is rather longer in proportion, being nine lines in length.

The second new species is one of the Icterine group, and in most of its characters agrees with that division to which the term *Cassicus* is applied: it has the same stout conical bill, the upper surface of which is broadly expanded at the base, and encroaches on to the forehead: the *apex* is pointed. This bird, however, differs from any other species of the group to which it belongs, in the great length of its wings, which extend considerably beyond the tip of the tail, which is of moderate length, broad, and slightly rounded. The colouring of the plumage is also remarkable, and particularly the texture of the feathers, those of the body having a velvet-like appearance, whilst those of the wings have a distinct gloss, such as we see in the plumage of the Crows. No doubt, according to the views of many ornithologists, this bird would be regarded as a new genus or subgenus; the sectional name *Ocyalus* is therefore proposed, from Ωκυαλος, in allusion to the swiftness with which it is to be presumed a bird with such wings would move.

Subgenus Ocyalus.

Characteres ut in Cassico, *alæ autem longissimæ, et caudæ apicem transeuntes.*

Cassicus (Ocyalus) Popayanus. *Oc. niger, corpore purpureo relucente; alis nitore viridi; capite nuchâque suprà castaneo tinctis; caudâ flavâ, rectricibus quatuor intermediis in toto nigris, sic et apicibus reliquorum; rostro pallido.*

Long. tot. 11 unc.; *rostri*, 1½; *lat. ad basin*, 6¾ lin.; *alæ*, 8½ unc.; *caudæ*, 4.

Hab. Popayan.

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CORRIGENDA.

P. 30. Lines 19–20, *for* genera, *read* genus.
P. 163. Line 7, erase the words "BRACHYPTERUS or".

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